# DEVELOPMENT

THE INTERNATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION

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6

Austin R. Zender, President of Bridgeport Brass, describes the diversification of his company into many different kinds of metals and its emergence as one of the largest producers of non-ferrous metals. The story begins on page 13.

# YOU BET WE'RE PROUD OF OUR INDUSTRIAL GROWTH

## *in Prince Georges County, Maryland*

**SAFEWAY** STORES, INCORPORATED

*1845 Fourth Street, N.E., P.O. Box 1830, Washington 13, D. C.*

February 26, 1960

Mr. T. Howard Duckett
Chairman
Prince Georges Industrial Development Committee
Chamber of Commerce Building
Hyattsville, Maryland

Dear Mr. Duckett:

We wish to congratulate the Prince Georges Industrial Development Committee for the fine work it is doing for the County, its people, and industry.

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Present and future growth possibilities are conducive towards further industrial development.

Sincerely,

J. A. Anderson

J. A. Anderson
Division Manager

The Industrial Development Committee has prepared an elaborate and informative brochure which goes into detail about the industrial climate and advantages. Find out why you should join the "Partners in Progress" of Prince Georges County, Maryland, Industrial Neighbor to the Nation's Capital. For your copy of brochure fill in the accompanying coupon.

***All inquiries held in strictest confidence***

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Chamber of Commerce Building, Hyattsville, Maryland

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INDUSTRIAL

# DEVELOPMENT

AND MANUFACTURERS RECORD

VOLUME 129 • SEPTEMBER 1960 • NUMBER 10

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Since before the turn of the century MANUFACTURERS RECORD has issued special studies of specific cities and areas to assist the site-seeking industrial firm. Today, through the combined coverage of INDUSTRIAL DEVELOPMENT and MANUFACTURERS RECORD this tradition of leadership in this field is being extended and carried forward.

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INDUSTRIAL DEVELOPMENT MANUFACTURERS RECORD

# CHECK POINTS

The only thing we learn from history is that we don't learn anything from history. So the saying goes, and all too often it seems to hold true. We have been reminded of this repeatedly during the current year as we witnessed the entry of new nations into the world community.

This year we've seen a parade of new countries, almost all in the under-developed regions of Africa and Asia, make their debuts. They have come in with flags flying and bands playing, as is right and proper. Political independence has been a goal for generations for millions of people and it is only natural for them to celebrate the achievement of this long-sought dream.

**But in many new capitals, there has been a rude awakening on the morning after. Already, there is surprise, frustration, and disillusionment in many of the new nations. For the people are now learning what older nations have realized for generations — political independence affords no magic solution to national problems.**

To survive and prosper, a nation must have the support of a sound economy. The new country must enjoy a suitable competitive position in world trade, and must present a favorable set of developmental factors to inspire new investment. No matter what color flag flies overhead, basic economic laws still apply. Thus, we believe prospects for future development ought to be a prime consideration in the launching of new countries, just as such factors are of vital concern in the launching of new business enterprises.

We have seen new countries established despite the existence of the remotest chance that they can sustain themselves for years to come. They begin life almost totally dependent on others. Their chances of success are about as bright as those of the newlyweds who move in with their in-laws and start their married life unemployed and head-over-heels in debt.

Don't misunderstand. We defend the right of all peoples to govern themselves, just as we defend the institution of marriage. But we think there ought to be enough parental influence and control to give the best possible opportunity for the new life to be a happy one.

**To be specific, we believe development experts ought to be consulted in the establishment of new nations, instead of bringing them in later to pick up the pieces. We learned in Europe that a multiplicity of nations can hamper development, so we're trying to unravel the knots via common market arrangements and customs unions.**

In Africa, we're ignoring this economic history and merrily creating another hodge-podge of new nations which eventually will have to be joined into workable economic units if they are to prosper. All you have to do is glance at a map to see the folly of the present layout.

We are creating new nations with boundaries which follow no logical routes; some countries are being cut off from transportation centers, while in others the most logical line of development is being blocked with new political barriers. Markets which might soon be attractive for important new investment are being sliced up and relegated to obscurity.

If we didn't know any better, these mistakes could be excused. Certainly, when Columbus discovered America he couldn't bring along a group of area development specialists to select the best sites for the major cities and to mark out the most logical lines for state and national boundaries.

But we do have in the world today the knowledge to do a much better job in getting new nations started. We can and should help them avoid

During a busy month, ID's editor (left) presents Industrial Development Citation to Puerto Rico Governor Luis Munoz-Marin for his leadership of the outstanding "Operation Bootstrap" which has revolutionized the island's economy. Award was made in San Juan.

In Managua, Nicaragua, ID's editor looks at a new industrial area pointed out by Alfredo Sacasa, head of the nation's ambitious development program. Mr. Sacasa and other Nicaraguan officials were on hand at the airport when the Conway Cessna touched down after a flight from Costa Rica.

In Ciudad Trujillo, Dominican Republic, ID's editor poses in front of the "Secretaria De Estado De Industria Y Commercio" — the ministry of commerce and industry. The imposing government center is the former site of the International Exposition held in Ciudad Trujillo several years ago.

some of the mistakes we have made. We ought to have the courage and imagination to tackle planning and development programs on the grandest scale of all — planning new nations which make sense economically and physically as well as politically.

We could use some of the courage and imagination displayed by Juscelino Kubitschek who created the new city of Brasilia in the Brazilian hinterland BECAUSE THAT'S WHERE LOGIC SAID IT SHOULD BE. In our opinion, this is the most outstanding development of our day — reflecting exceptional leadership and foresight. The next generation will reap the benefits.

**We have plenty of men in the world who have guts and keen insight into national needs. Another is Puerto Rico's able Governor Luis Munoz-Marin. It was our pleasure to present one of ID's special citations for distinguished service to him recently in San Juan. In a colorful suite amid tropical vegetation in historic La Forteleza, we talked of development programs and nations.**

Puerto Rico is our showcase in Latin America — a shining example of the progress that can be achieved under the American enterprise system in a free democratic society. The planned development program has been so successful that people come from all over the world to see it. We have met men trained in Puerto Rico holding key posts now in numerous other locations — just a few weeks ago we encountered a San Juan-trained developer acting as advisor to the government of Venezuela in Caracas.

Obviously, there's a sharp contrast between what we see in Puerto Rico and what we see in Cuba. We hope this lesson will not be lost on any of our Latin neighbors. Our system can and does provide the greatest good for the greatest number! As Governor Munoz put it, "organized development is the best answer to communism".

—H.M.C.

Eyeing a new plant site?

The Texas Power & Light Company invites expanding industry, large or small, to make use of the services of its staff of specialists—skilled and experienced in serving officers and executives of industrial corporations. Without obligation, your particular location problems will be carefully and thoroughly analyzed by those having broad knowledge of industry and facts pertaining to manpower, materials, resources, finance and other important factors in Texas.

*Write, wire or call J. D. Eppright, Director, Industrial Development Division, Texas Power & Light Company, Dallas, Texas. Inquiries held in strict confidence.*

**Booklet detailing plant location services sent on request.**

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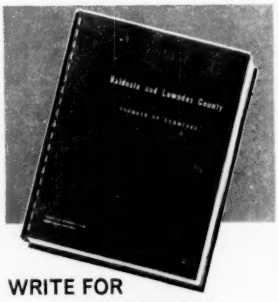

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INDUSTRIAL DEVELOPMENT
# LETTERS
MANUFACTURERS RECORD

**SIRS:** Just happened to be looking over a copy of your June 1960 issue recently and found that it would be quite helpful in my work. I wonder if you would be kind enough to put me on your mailing list so that I might receive your magazine regularly.

I would also like to receive a copy of your June 1960 issue if possible as I was most interested in the article about how gas utilities can get heavily involved in industrial site promotion.

You're doing a very good job with this publication. Keep up the good work.

**GENE HOLLAND**
W-724 Prudential Building
Houston, Texas

► **Requests complied with.**

**SIRS:** As Management Consultants, one of our functions is to assist companies in their search for, and evaluation of, potential acquisitions. Your cooperation on these searches when I was with Booz, Allen & Hamilton was very helpful. . .

At the present time, we are helping a client in the instrumentation and controls industry on their expansion and diversification program, and it is possible that someone in your organization may know of available companies which fit the rather broad specifications set by our client. Our client is interested in companies whose operations are related to the instrumentation and controls industry, or companies in the light metal working field with proprietary products involving a significant degree of engineering. Companies with a market value up to approximately $5 million will be considered, although the preferred size is $500,000 to $1.5 million.

The preceding criteria are not rigid or exhaustive. They are intended to give a general idea of the type of company desired. Any company which offers a good business opportunity will be considered.

Any assistance or suggestions will be appreciated and treated with confidence.

**DONALD W. SHARP**
418 Ridge Road
Wilmette, Illinois

► **Anyone interested?**

**SIRS:** Thank you for sending the audits of Springfield, Missouri; Mayfield, Kentucky; and Alton, Illinois.

These audits are very helpful in our current study, and we are looking forward to receiving the audits from the other communities contacted.

**ELEANOR KOELMEL**
Tower Research Associates
Philadelphia, Pennsylvania

**SIRS:** I have just finished thumbing through your "Area Development Guide for Community Leaders."

This is a fabulous document.

**MALCOLM S. HATCH**
Executive Vice President
Pawtucket-Blackstone Valley Chamber of Commerce
Pawtucket, Rhode Island

► **Thanks!**

## LETTERS

**SIRS:** I will appreciate receiving a copy of The Registered Community Audit for each of the 189 metropolitan areas of the United States.

You undoubtedly have a list of these metropolitan areas. . .

**WILLIAM S. GASKILL**
Senior Analyst
Real Estate Research Corp.
Chicago, Illinois

► **Available audits have been furnished. All others have been requested from the areas.**

**SIRS:** I have received a copy of your film "BLUEPRINT FOR PROGRESS." Please accept my thanks for the opportunity of viewing it. Although I do not believe that it is applicable to the particular kind of planning which we are doing here at Michael Reese Hospital and Medical Center, nevertheless it is a notable contribution to the "visual literature" on the subject.

I was, for several years, planning director of a California community and know first hand of the problems covered in the film. The particular community in whch I worked had strong industrial ties and, at the same time, a home owner population which had little understanding of the problems of industrial development as it relates to residential uses. I only wish that we had had your film at that time.

Thank you again for the opportunity of viewing the film. I would be glad for the opportunity to view any other films you make along the line of planning for the future.

**DOUGLAS E. JOY**
Planning Director
Michael Reese Hospital
Chicago, Illinois

**SIRS:** The article "Are Subsidies Worth While," by Doctors Bergin and Eagan, in your July 1960 issue offers the kind of objective analysis which should be invaluable to your readers.

May we have permission to reproduce it, giving full credit, of course, to your publication and to the authors?

**WILLIAM PAPIER,**
Director
Research, Satistics, and Promotion
Bureau of Unemployment
Compensation
Columbus, Ohio

► **Permission granted.**

**SIRS:** In the July issue of INDUSTRIAL DEVELOPMENT the article on "The Role of Banks in Industrial Development" is most appropriate, and I want very much to have a copy get into the hands of the president of each of our banks in our service area.

At first I thought of reprints of the article but on second thought I believe a full copy of the July issue might be better as I am sure many of our bankers are not acquainted with the magazine itself.

If you will ship me 60 copies I would greatly appreciate it. . .

**MAJOR LEE WHITE, JR.,**
Director
industrial Development
Scranton-Spring Brook
Water Service Co.
Scranton, Pennsylvania

► **Request complied with.**


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All correspondence and discussions in strictest confidence.

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Industrial Development Department

*Alabama Power Company*

*Helping Develop Alabama*

Birmingham 2, Alabama

# MANAGEMENT'S ROLE IN

*"Our free enterprise society has entrusted management with nothing less than the obligation to organize and to operate the productive resources of the whole economy. This has resulted in achievement of the greatest good for the greatest number."*

*By John S. Bugas*

Management's freedom to manage depends upon management's continued demonstration of accomplishment. It also depends upon our ability to call upon our societies' understanding and support of our system. In the free society, failure to carry public support inevitably results in encroachments on management's proper role and finally in a change in our institutions that might not be for the better.

In the management area, our American society and institutions have provided the environment for the most highly imaginative exercise of initiative and venture the world has yet seen. The benefits to the whole society have been at least equal to the freedom of opportunity it has afforded.

In America, any person may venture and may operate a business and thus become part of management. Management of the larger business organizations is not drawn from a management class or caste, but average citizens who have worked and learned in the process and who have been given recognition for competence. There are those who say that in practice the unknown and moneyless beginner

# FREE WESTERN SOCIETY

cannot get started in business. The fact is that enough do start and succeed to prove the existence of freedom of opportunity.

The collection and appraisal of fact forms the basis for business judgments such as the nature and quantity of products; marketing areas; pricing; organization and financing of the enterprise; production techniques; future growth and expansion; and new products and processes.

Business management in the free society usually succeeds if it yields a fair profit and return on the investment. The enterprise fails if the consumer does not buy its product whether because price is unsatisfactory or the product is undesired.

The competition of other producers, operating within a framework of rules of laws, serves as the counterweight and regulator — the force which drives management of each enterprise constantly to strive for lower costs of production — and thereby for the most competitive price — for improved products or for new services or products. Because of the infinite and changing nature of consumer's wants, the free enterprise system is utterly dynamic, requiring management's constant attention to anticipate the adjustments needed to adapt to competition.

This system of organization of the means of production contrasts sharply with systems in non-free societies. The communists, for example, hold that the state planners can more efficiently decide the nature and quantity of products to be created. The planners also attempt to decide the recipients. Competition is considered wasteful. Such a system has demonstrated, that it can accomplish the design and production, even of complex products, whenever the state decrees a priority. This system is wholly subordinated to the objectives of the state and is unresponsive to the wants of the society.

Our free enterprise society has entrusted management with nothing less than the obligation to organize and to operate the productive resources of the whole economy. This has resulted in achievement of the greatest good for the greatest number.

In earlier periods management and ownership of enterprise were largely synonomous. But today large enterprise, as reflected in the corporation, is owned by thousands of stockholders. Management, although it usually participates in ownership, is not owner but paid official or employe.

The success of our system of free private enterprise can be judged in terms of the well-being and the situation of the individuals within the whole society. Per capita **real** income in the United States is the highest ever achieved by any society. Judged by any number of objective criteria such as gross national product, per capita income, gainful employment, per capita savings, real wages, or new capital formation the American economy and the individual within it have been benefitted materially.

Material well-being is not the sole judge of the worth of a society. But a system which has enabled its workers to achieve more effective influence over their environment has contributed advancement to its members and to their ability to extend their human aspirations.

Free private enterprise is not perfect nor is it always judicious and equitable. Pursuit of self-interest and profit by enterprise can lead

to acts which injure individuals and groups in the society. The fact that the system, as constituted, rewards merit and inexorably rejects less than superior performance, as judged largely by the profit test, results in temporary and sometimes permanent injury to individuals and to institutions. The fact that the system places basic emphasis upon self-reliance and largely rejects state responsibility for the individual results in some exploitation.

Perhaps the most persistent charge against the free enterprise system says that the producers themselves have only one goal — to produce more and more in order to yield more and more profit. What is produced, the argument goes, is immaterial. "Frivolous and useless" products squander society's economic resources, whereas producers ought to make only that which has economic value.

But wherein lies society's greatest interest? In the idleness of men and plant and the loss of their product? Or in continued improvement in product design and performance and for which there is demand? Our system presumes the consumer is king. He buys only the products he needs or wants. Who is to say the consumer is right or wrong?

Except when the interest of the whole society is in peril, to organize production on any other basis would involve the substitution of a presumed superior judgment.

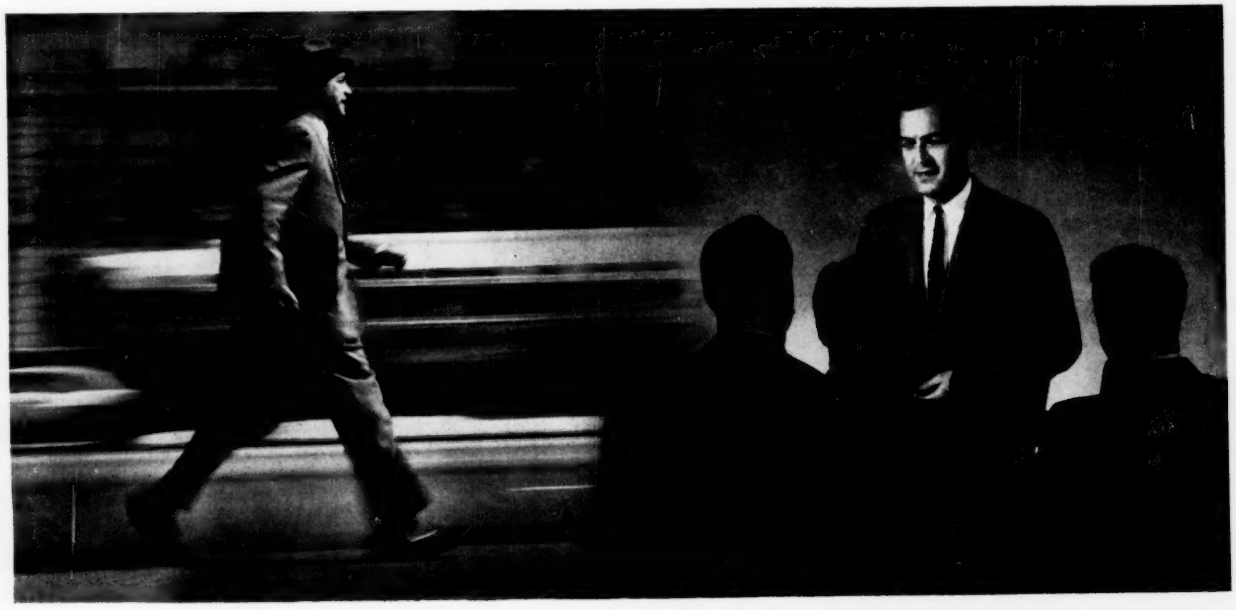
## Management and the Society

Traditionally and legally the first parties in interest of the enterprise or corporation are the owners or stockholders. They enjoy the benefits of its successes and incur the burdens of its failures. The first concern of management must be to enhance the interests of the owners.

However, modern management recognizes that success over the long term cannot be secured by **limiting** attention to enhancement of ownership interests. The force of community and public attitudes toward the enterprise can be disregarded only at the peril of ultimate failure. The current re-emergence of economic strength and political stability in many important world trading nations heralds an era of increasing world exchange and competition in trade. Growing recognition by peoples, businesses and governments of the enormous advantages available from adoption of more liberal trade practices is a factor of great importance. The establishment in Western Europe of regional economic and trading communities is an example of this ferment.

Such competition and combination of resources and imagination cannot fail to yield significant advances in productivity and economic strength. The introduction of more liberal trade practices will encourage new steps toward what the economists call **comparative advantage** — specialization within individual economies which enables each to emphasize production of those goods which it can create at lowest relative cost.

The volume of production and the size of enterprise have, of course, a direct relationship to cost of production. Within definable ranges, unit costs of production, in most industries decrease as production volume grows. Over the longer term lower prices and improved products generally flow from expanded produc-



**Because Union Electric goes more places, sees more people,**

tion as well as possibly increased profits.

The long-term interests of the large enterprise and of the communities in which it operates touch at very many points and tend to be common. The responsible corporate citizen adopts the position that whatever creates a community or country problem becomes a problem for the business. If the enterprise has caused, or contributed to the problem, it must assist in its correction. The enterprise which consciously aims at responsible corporate citizenship discovers that its customers in the lands where it operates are generally aware of management's position and policies.

### Management and Government

Routine business relationships with government involve such diverse matters as securing import and export licenses, payment of taxes, obtaining licenses to conduct business, arranging for authorizations to build or change facilities, receiving government contracts to purchase products, or negotiating on railway or truck haulage rates, etc.

Some less routine relationships involve corporate and public policy interests of major significance. For example, The Securities and Exchange Act requires that contemplated public offerings of securities be submitted first for review by the Securities and Exchange Commission. The National Labor Relations Board, may direct an enterprise to recognize a union as bargaining agent for all or part of a company's employes.

Issues in which management as a group has a major concern usually relate to legislative proposals or studies or projected basic changes in policy in the executive branch. Matters of this nature usually involve the basic relationships of the enterprise with its owners, employe representatives, customers or the government.

Since World War II the aggressive policies and actions of the Soviet Union have required our nation to make major defense plans and to undertake the development and production of complex weapons systems. The government has formulated the strategic plans and has specified the nature and characteristics of the weapons and systems desired, and business enterprise has designed, developed and produced them. The government did not find it necessary or desirable to seize plants or businesses in order to accomplish this. This may be contrasted with the Soviet Union where the government controls all the means of production and all the workers. There the government not only formulates strategy but also operates the production facilities and establishes priorities of production.

### Challenges to Management

Our free democratic society in the West is undergoing its most crucial test as a result of communist attack and challenge; paradoxically, nowhere in the world has communism made available the benefits of a society's resources for the well-being of the whole people. On the contrary, the well-being of people is ruthlessly equated with state objectives dictated by the few. The inability of the people to exercise significant influence is a distinguish-

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ing characteristic of the communist state.

Thus, these challenges posed to our society are at least two-fold. One is military power. Militant communism seems determined to conquer the free world. Its system can create modern arms and weapons systems in order to develop positions of power with which to impress its views. The nature of modern weapons promises such ultimate destruction that it seems unlikely the conflict will be fought in this sphere although Soviet power continues to theaten our system.

The other challenge is a battle for men's hearts and minds. The fact that the communists have only words and promises is a factor of enormous strength for the free so-

John S. Bugas, Vice President of the Ford Motor Company's International Group, directs the company's growing import and export operations and has charge of its relations with overseas branches, subsidiaries and associated companies. He is a native of Wyoming and a graduate of the University of Wyoming; he came to Ford from the Federal Bureau of Investigation and spent fourteen years in charge of industrial relations activities before concentrating on his present duties in 1959.

cities. Our means of defense are the strength of our beliefs and institutions and the ability to demonstrate the superiority of the free society.

We recognize that the strategic interests of the industrialized free world require that it continue to provide technical and capital investment in nations in process of development. If we permit the expectations of these peoples to fail because our participation has been ill conceived or ineffectual, some will surely turn to the communist's blandishments.

One of the striking characteristics of this age is the enormous drive in less industrialized countries to achieve planes of living and political and social advantage not available to earlier generations. The Ford Motor Company has noted the determination of many countries in which we have long been resident to secure manufacturing facilities for their own country. To say that automotive manufacturing is an intricate process of a highly industrialized economy is only truth, yet numerous governments of developing nations state their determination to require local manufacture as a condition of continued business in their country.

In those countries and lands in which management foresees advancing business opportinity, it is not difficult to conclude that we will remain and will manufacture. What is extremely difficult however is for management to adapt to conditions which some governments impose to insure what they regard as a proper productive contribution to their society. Some governments seem not to recognize that the processes of the highly industrialized society cannot thrive except in an environment of relative freedom for the enterpriser.

It is undoubtedly a responsibility of management patiently and rationally to bring such governments to an appreciation that responsible business citizenship will have regard for the same — and more — concerns which those governments so painstakingly attempt to specify and to supervise.

Management should recognize that in this area its every act and posture is identified with the free enterprise society in which it has its origins. It should be aware that disdainful, smug attitudes will not create the advantageous business climates we need.

Yet one of today's clear challenges for management is to recognize and accept the ferment operating in many areas of the world. The role of management in this situation will be literally to bring hopes and goals to reality.

In a real sense business and managerial ability are supranational. Management can exert a significant creative and productive force in many nations whenever it is prepared to comprehend diverse laws, customs, and practices and whenever it is prepared to fit its products into differing national aims.

## Management and Labor

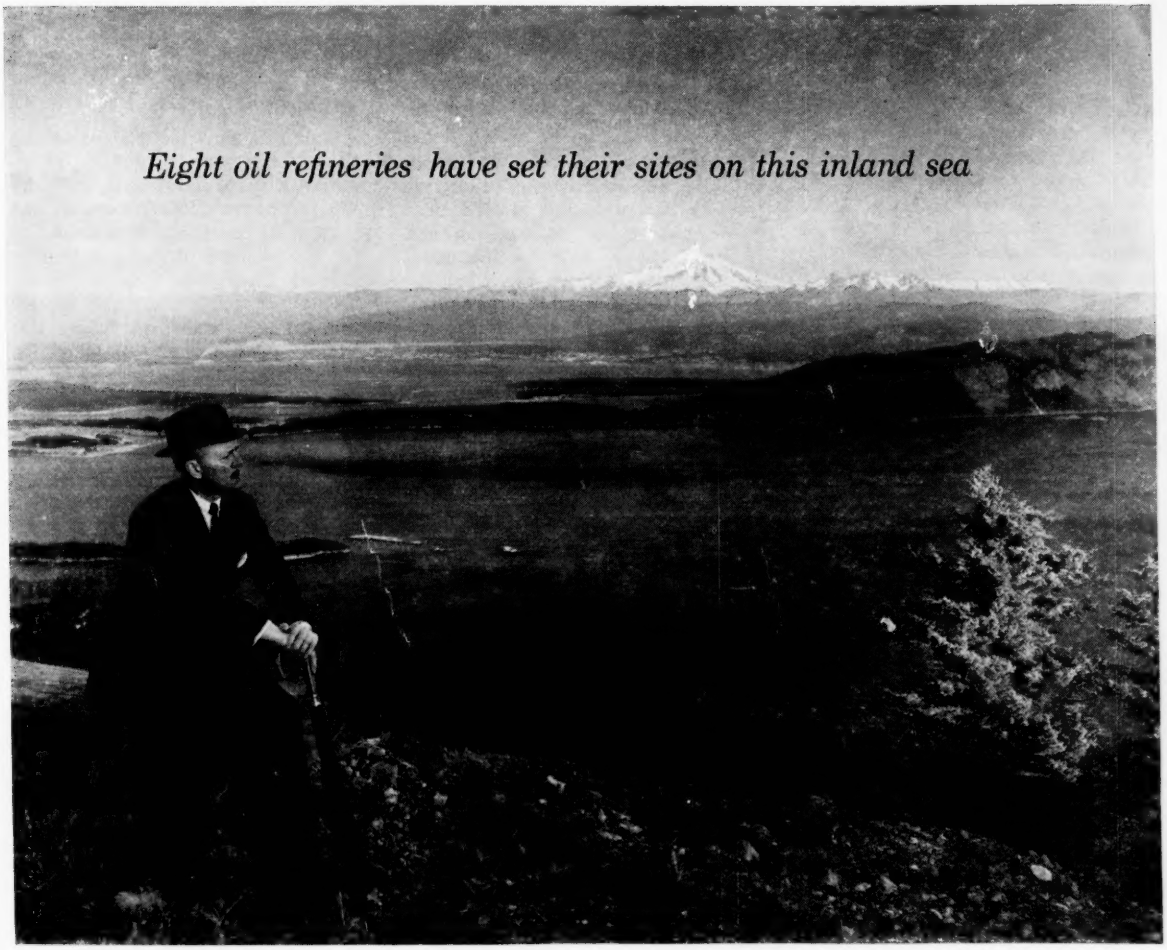
No one element of the means of production is more important than the others. But of all, the least dispensable is people — the ranks of both labor and management.

The mistakes and insensitivity in the treatment of labor by some employers in earlier times resulted in public demand to readjust relationships. As a result, government gave its support to the development of trade unions and to removal of restrictions on union power. It also established the principle of free collective bargaining.

Many union leaders — as arrogant as some of their management counterparts in earlier decades — concluded that the governmental action in support of their needs granted them a perpetual license to amend our system of free private enterprise.

Union leadership professes that it does not want to alter our institutions yet some of its demands upon management, if acceded to, would do just that. In the automobile industry, for example, union leaders exhibit a continuing urge to participate in decisions basically affecting the production process. If permitted, they would dictate production scheduling, both as to plants and timing, and would participate in decisions regarding prices in order, they say, to enable them to secure higher benefits, to level out production rates and to control profits. They would be most happy if management

*(Continued on page 12)*




Stop here at this island vantage point and take a fresh view of the West. You're seeing scenery second to none in all the U. S. Take another look. You're surveying an industrial center – and a market – second to only one of all the Western states.

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Albert D. Rosellini

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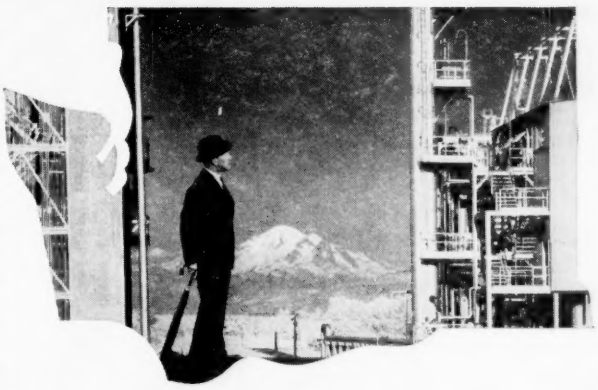

*One natural resource not found in Washington, petroleum now pours into the Puget Sound area by pipeline from Alberta, by barge and tanker from overseas. Industrial expansion and a growing population have built a market for four major refineries now in operation, another four for which sites have already been purchased. The refineries, in turn, have brought corresponding growth in allied petro-chemical industries.*

For your free copy of "BASIC ECONOMIC DATA AND INDUSTRIAL SITE INVENTORY" write to Sam Boddy, Jr., Acting Director, Washington State Department of Commerce and Economic Development, General Administration Building, Olympia, Washington.

THE SURPRISING
**STATE OF WASHINGTON**

*(Continued from page 10)*
would defer to them in the selection, assignment, promotion, training, disciplining and lay-off of personnel. These union leadership demands for participation in management are symptomatic of a deep and dangerous misconception.

Many trade union leaders have gone to great lengths to persuade the public that whatever benefits the union also — and automatically — benefits the society. A union demand is pictured as a struggle in which the union represents the public interest and the employer maintains a narrow business interest. Labor's political aims appear to concentrate on securing advantages, through political moves, which could not be achieved as a result of rational negotiation on economic factors.

### Management in the Next Decade

Most citizens in America would, it seems, express general satisfaction with the general nature of our system. The majority would say that we are on the right track and are headed generally in the right direction. We have attained a stage in which production is accomplished with the lowest **human** cost yet devised.

Management must fail in its obligation to members of the free society if it does not have a clear understanding of its function and responsibilities. It is no defense if management protests that it has become a public whipping boy. Any failure to inform the electorate imperils its ultimate judgments affecting the structure of our system. The battle for free enterprise is a part of the battle for the free society.

If government is suspicious and intolerant of management aims, management should do something about it. If managers stand aloof from government, they can only blame themselves if government thereafter misunderstands or mistrusts management's actions and aims.

Some managers are understandably fond of demanding exercise of statesmanship by others. We must be sure that we ourselves fully measure up to this requirement. We must insure that the interests and well-being of our own employes have been genuinely and constructively considered.

Management should develop articulate and seasoned public presentation of managerial attitudes, concepts and practices. We must take account of the political process, not for the purpose of fighting real or fancied adversaries, but in an effort to strengthen the whole society and its institutions including our own.

Our sense of responsibility in our business operations and judgments must be broad enough to enable us to weigh the consequences of what we often consider to be pure business decisions. Viewing consequences in relation to the society's broad interests will benefit all elements — not least management.

The freedom to manage is society's grant; it can be modified or withdrawn. Our best promise of its continuation will lie in continued demonstration of our effectiveness and of our capacity to encompass our interests and methods within the ambitions of our societies. Management now has a major share of the responsibility for the future of the free society.


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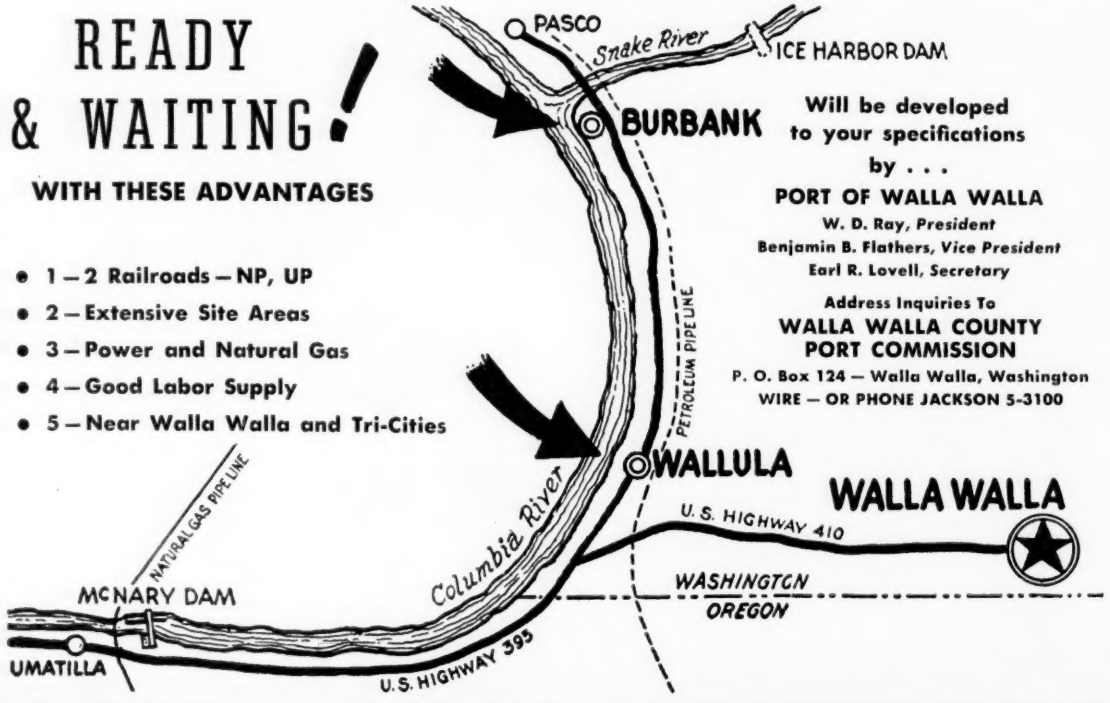


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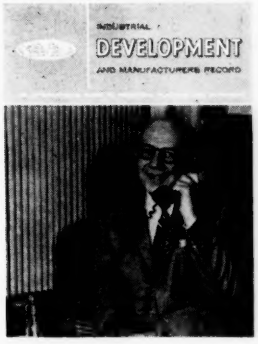



COVER STORY

# FROM ALUMINUM TO ZIRCONIUM — A BROAD SPECTRUM OF GROWTH

**Bridgeport Brass has long since moved into a wide range of metallurgical products and today presents a panorama of diversified growth. The firm has just committed another $21 million for new plant facilities.**

*By Austin R. Zender*

In 1959 Bridgeport Brass management completed and the board of directors approved a long range expansion and plant improvement program designed to greatly increase the sales and profits of the company's business within the next few years. The plan, which involves substantial capital expenditures, is already in effect.

Recently the company signed a credit agreement with a group of banks for $21 million. These banks are: Chemical Bank New York Trust Company, Bank of America National Trust and Savings Association, Continental Illinois National Bank and Trust Company of Chicago, Irving Trust Company, The Indiana National Bank of Indianapolis and The Connecticut National Bank.

A large portion of this money will be spent in equipping a plant in Warren, Ohio, for the manufacture of aluminum sheet and strip. Title to this plant was taken from the Government on January 8 and production in this facility began during the first half of 1960. The full operation of this plant is the keystone upon which Bridgeport is building plans to gain wider markets than it now has in the aluminum field.

## Specialists in Metals

The entire long range expansion and plant improvement program is based on the premise that the future of the company lies completely in the metals field.

Research and development in metals has been a tradition with the Bridgeport Brass company since it was founded. The company is a pioneer in the brass and copper field and developed many of the alloys and metalworking methods used today.

There is almost a revolution in metallurgy today and Bridgeport is taking a leading part in it. In the company's laboratories, it is carrying on a broad research program in metals that ranges from A to Z — aluminum to zirconium.

Because of its broad and continuing research in metals, Bridgeport has gained considerable knowledge and experience in the working of all basic metals and more recently obtained successful accomplishments in experiments with the newer metals. In many of the company's plants it has worked successfully with metals such as titanium, molybdenum, zirconium and uranium. Other metals being developed for future use are beryllium, hafnium, tantalum, vanadium and yttrium, to name a few. The results and the knowledge gained from such work enables the

company to become a competent advisor to metal users.

Metal customers are constantly striving to broaden the end uses of their own products and of considerable importance to them is knowing the most effective way each metal can be used. Bridgeport is working itself into the position of being able to provide this information from the knowledge gained in its research and development laboratories. The important progress made in this direction has not gone unrecognized.

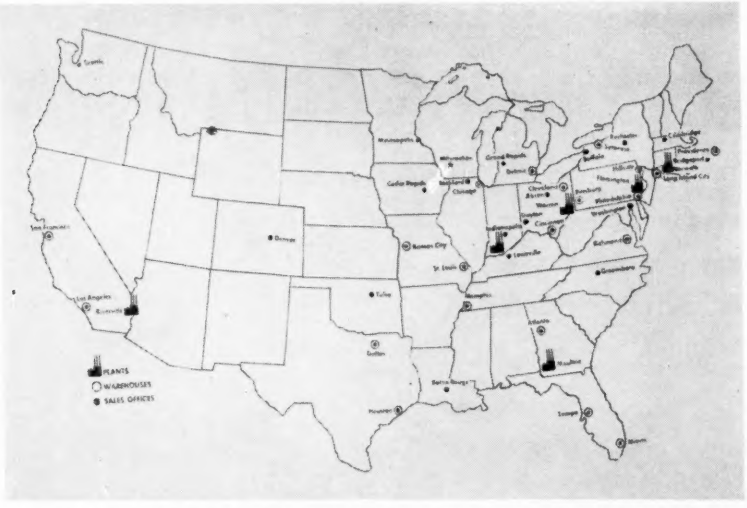
While the company is carrying on this broad work in the newer metals, for its immediate future it is putting emphasis on the expansion of aluminum production so as to keep pace with the expected great growth of the light metal in the years ahead.

A study the company recently made disclosed that during the years covered by the plan, only a normal growth is expected in copper and brass, but a substantial increase in the use of aluminum is indicated. The copper and brass industry is by no means static, but its growth is tied very closely to the population growth, which is roughly about two per cent a year, whereas demands for aluminum are expected to continue its historic performance of doubling on the average once every ten years.

## Demand for Aluminum Increasing

According to the official aluminum primary capacity statistics, in 1939, 163 thousand tons were produced. Ten years later, in 1949, this capacity increased to 603 thousand tons, and for 1959-60, capacity will reach 2,605,000 tons. Present consumption of approximately two million tons of aluminum per year is predicted to double by 1965, which is the year the company's plans to reach top capacity for the production of this metal are scheduled to be completed.

Looking ahead even further, the demand for aluminum is expected to expand by another 100 per cent between 1965 and 1975.




Bridgeport Brass now has plants, warehouses or sales offices in 26 states and the District of Columbia. Not shown on the map are the three plants in Bridgeport itself, the plant leased from the Air Force in Adrian, Michigan, and the Noranada Copper and Brass plant in Montreal, which is under Bridgeport management.

In stepping up aluminum production to cover a much wider variety of mill products, Bridgeport will put itself in a more favorable position to supply customers' non-ferrous metal requirements.

The company is concentrating its increased aluminum production efforts in the manufacture of aluminum sheet and strip because aluminum in this form represents the largest segment of the total market —over 50 per cent—and has the best potential for even greater growth in the years ahead.

The first mill installed at Warren will be limited to producing 24-inch sheet. Plans also call for installing a paint line for painted strip, and eventually, equipment will be installed to produce sheet and strip up to 48 inches wide. While the plant will begin initial operations on a re-roll basis only, it will eventually become an integrated mill with complete melting, casting and hot rolling facilities.

Aluminum production at the company's Riverside, Calif. plant will be expanded also. The principal aluminum operation carried out in this plant is the production of strip for its Hunter-Douglas line of blinds and awnings and present equipment is now limited to producing eight-inch widths. Under the expansion plan for this plant, capacity will be increased to provide up to 18-inch width strip, which will permit the company to broaden its range of products and sharply reduce current costs.

New equipment will also be installed at Riverside for rolling relatively unlimited lengths of aluminum coil.

As for Bridgeport's copper and brass operations, the long range plan calls for considerable improvements in operating techniques and production equipment so as to continue to remain keenly competitive in this industry. For example, it is planned to manufacture copper and brass tube at the Riverside plant. This will enable Bridgeport better to serve its western and west-coast customers.

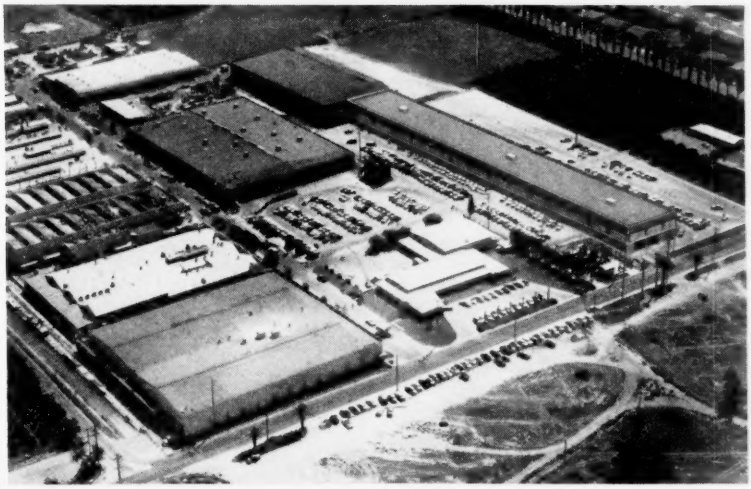
Bridgeport has already taken two very important steps to improve its position as a manufacturer of copper and copper base alloy products. First was the construction of a new plant in Moultrie, Ga. for the manufacture of plumbing goods and secondly, the company entered into a contract to purchase the controlling interest of the Seymour Manufacturing company in Seymour, Conn.

## New Plumbing Goods Plant

The new plumbing plant at Moultrie, which is now in full production, will enable the company to manufacture a full line of tubular plumbing goods, which it has been making for more than 50 years, in a considerably more favorable profit climate than experienced in the plant's former location in Bridgeport, Conn. Lower taxes, reduced utility and maintenance costs, plus the operating economies gained in a

The Housatonic plant, on a bend of the river of that name as it flows through downtown Bridgeport, makes brass, copper and bronze mill products, condenser tubes, copper water tubes and zirconium tubes.

The Indianapolis plant, on the southwestern outskirts near the airport, is Bridgeport's most versatile Midwestern plant, turning out brass, copper and bronze mill products and aluminum sheet. Copper water tubes and condenser tubes are major items.



Bridgeport's Riverside plant, surrounded by orange groves, is heavily involved in missile and other ordnance components, but it also makes Venetian blinds and awning components.

modern, one-story plant provide some of these advantages.

Acquisition of the Seymour Manufacturing company will be another important factor in Bridgeport's long range growth program because the facilities in this plant will enable Bridgeport to enter new fields in the mill products industry.

The Seymour Manufacturing company has special machinery and equipment for the manufacture of alloys which Bridgeport does not now produce in quantity. These include special phosphor bronze and nickel silver alloys in strip and wire form, nickel anodes and stainless steel.

The full impact of Bridgeport's long range growth program will be felt at the end of 1965. This plan is designed to provide Bridgeport Brass with an organized long range expansion program that will assure its continued growth and prosperity.

## The Bridgeport Story

Bridgeport Brass is the nation's largest independent producer of brass, copper and aluminum mill products. From a modest start in 1865 as a brass fabricating company operating in a single building in Bridgeport, Conn., it has grown to be one of the 250 largest industrial corporations in the United States. Stock in the company was closely held up to 1934, but today common and preferred stockholders number over eighteen thousand.

From its very beginning, Bridgeport has pioneered in the development of metals to give them wider use and to create products to better serve the American people.

Two years after the company was founded, its engineers developed the first screw micrometer for gauging sheet metal and this instrument served as the odel for micrometers that are now used throughout the world and are the standard system of measurement in the metals industry. Bridgeport supplied the copper wire for the first long distance telephone line installed in this country between Boston and New York. It made the first Admiralty condenser tubes for the U.S. Navy.

Other developments which Bridgeport Brass proudly claims as "firsts" are the development of bronze trolley wire, installation of the first electric casting furnaces in the brass industry, and the development of the slug method of manufacturing cartridge cases from brass rod. It was the first company to perfect the technique for drawing zirconium tube, and it produced the first successful cold extrusion of molybdenum.

Practically all of Bridgeport's expansion took place during the twenty years from 1938 to 1957, and most of this was accomplished after 1953. New plant construction and acquisition of other metal companies helped Bridgeport mushroom to its present size and scope of operations. In 1954, a new tube mill was built in Bridgeport, one of the most modernly equipped in the industry. In 1955, a new plant was erected, also in Bridgeport for the manufacture of metal laminates. That same year it acquired the former National Cored Forgings company of Norwalk, Conn.

In 1956 Bridgeport bought all of the outstanding stock of the former Hunter Douglas Aluminum corporation with two plants in Riverside, Calif. and one in Flemington, N.J. In 1957, a new tube mill was added to the properties of Noranda Copper & Brass, Ltd. of Montreal, Canada, which has been under Bridgeport management since 1947. This plant is owned jointly with Noranda Mines, Ltd. In 1953 Bridgeport leased a U.S. Air Force plant in Adrian, Mich. where it makes aluminum forgings and extrusions for military and commercial aircraft, as well as other aluminum products.

During this twenty year period, Bridgeport's assets increased from a little less than 13 million dollars in 1938 to almost 86½ million dollars in 1957. Today, current assets of the company total $92,255,556. In 1938 the total shareholders equity was a little over nine million dollars, and in 1957 it was more than 64 million dollars. Currently, the shareholders equity is $70,152,298.

Austin R. Zender, since 1958 the President and since 1959 the chief executive officer of Bridgeport Brass, is a veteran of 38 years in the copper and brass industry. With Bridgeport since 1935, when he came in as sales manager of the Condenser Tube division, he was successively sales manager of all tube products, general sales manager, and vice president in charge of sales. In 1952 he was made executive vice president.

He is also the President of Bridgeport's Canadian affiliate, Noranda Cooper and Brass, Ltd. and is director of a number of Connecticut concerns. His home is in Milford.

In keeping with Bridgeport Brass tradition of wide-ranging executive interests, he is currently a director of the National Industrial Conference Board and a member of the influential Newcomen Society of North America.

Bridgeport puts considerable emphasis on the importance of people and the need for self-development, and provides extensive intra-Company management training. Its management contracts with Noranda and Mallory-Sharon were sought after by those companies because of Bridgeport's broad management experience and the successes it has accomplished.

Two years ago the company introduced an Integrated Cost Reduction program in all plants in an effort to trim unnecessary and excess costs and established a goal of saving several million dollars by increasing operating efficiency through the elimination of wasteful and unnecessary practices.

This program has been eminently successful and its continual enforcement is responsible for making important savings all along the line.

One practice to which the company steadfastly adheres is good two-way communications between management and the employees, and this has made an important contribution to the success of its profit improvement program. This effective communications system is employed in every area of the Company's operations.

## Plants and Products

Bridgeport currently operates ten plants in this country, in addition to its Canadian affiliate. Plant locations and products manufactured in this country are: Adrian (Mich.) — aluminum extrusions and forgings for military and commercial customers; Bridgeport (Conn.) (3 plants) — brass, copper and bronze mill products, clad metals, tire valves and special metals; Flemington (N.J. — painted steel strip, venetian blind and awning components; Indianapolis (Ind.) — brass, copper and bronze mill products, aluminum sheet; Norwalk (Conn.) — cored and solid non-ferrous forgings; Riverside (Calif.) (2 plants) — aluminum impact extrusions, cold forgings, guided missile and ordnance components, venetian blind and awning components, aluminum sheet; Moultrie (Ga.) — plumbing goods.

Georgia's healthy population growth of nearly half a million since 1950 has been paced by a massive switch-over from agriculture to manufacturing as the chief economic mainstay. Industry thrives in Georgia for not just one or two but many reasons. Some of its strongest plus-factors come under the headings of markets, labor supply, raw materials and business climate, but these do not exhaust the list.

# GEORGIA

AN AREA SURVEY BY

INDUSTRIAL DEVELOPMENT MANUFACTURERS RECORD

THE INTERNATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION

*By Jouett Davenport, Jr.*

**Georgia's central location in the Southeast puts it in the fortunate position of being able to profit from growth anywhere in the region. Manufacturers already in the state have discovered that the labor supply is notable for trainability and productivity and that they can reap the benefits of rising educational standards. The constantly expanding network of roads, railroads, airlines, seaports and waterways gives them fast and efficient service in assembling raw materials and marketing their output.**

# GEORGIA'S GROWTH: PROOF

ATLANTA. Take a look at a map of the Southeastern United States, and you will note that Georgia, the largest state in land area east of the Mississippi River, is strategically situated in the center of this region which has been characterized as "Economic Opportunity No. 1."

Then, should this geographic advantage as a plant location factor intrigue you, make a visit to the "Empire State of the South" for a first-hand look at the rapid pace of development here and at the things which are causing this growth.

You can get here almost at the speed of sound via jet airliner directly from such key points as New York City, Chicago, San Francisco, Los Angeles, Dallas-Fort Worth, New Orleans, Miami, and others.

If you come by plane to Atlanta, Georgia's burgeoning capital city, you will land at an airport that is among the nation's busiest, an airport that is constantly being expanded and improved and where — as of this writing — a magnificent and tremendous new terminal building is nearing completion. Important, too, is the fact that this airport

Georgia's capital city of Atlanta, which now has a million citizens in its metropolitan area, is referred to — because of the tremendous industrial and commercial activity here — as the "Capital of the Southeast." In this skyline view the handsome State Capitol may be seen in the foreground, just left of center. The dome of the building is covered with gold mined in the Dahlonega area of North Georgia.

# OF LOCATION ADVANTAGES

is scarcely 30 minutes away from the heart of downtown by car or bus, and much closer in time via helicopter.

Driving from here in any direction you will find communities that are alert, clean and progressive, and where — taken altogether — many thousands of industrial citizens have found a happy home.

Georgia's 58,483 square miles of land area embrace a great variety of topography, climate and resources. In the north and northwest area of the state you will find the grandeur of beautiful, wooded mountains, part of the great Appalachian Chain. In central Georgia is the varied landscape of the Piedmont Plateau and Foothills, and as you move farther southward you will find the flat country of the Coastal Plain. To the east is a long coastline, facing the Atlantic ocean, with lush vegetation and beach and resort areas which are famous the world over.

Thus, from a point in middle Georgia you are no more than an easy half-a-day drive to fun areas in the mountains or at the seashore. And, of course, there are points of significant historical and cultural interest literally all over the state.

However, while Georgians are justifiably proud of the state's distinguished history and its position as one of the Original 13 Colonies, their concern today is not with the past but with constructive activities in the present and the great possibilities of the future. And, it is this progressive attitude, backed by the other necessary factors, that is likely to interest you most as a site seeker.

Therefore, let's move in for a closer study of what Georgia has to offer you now and in what Governor S. Ernest Vandiver characterizes as Georgia's "Golden era of progress."

## A Market of 22 Million Persons

States bordering Georgia are Alabama on the west, Tennessee and North Carolina on the north, South Carolina on the east, and Florida on the South.

Each of these states, as well as Georgia, had substantial population increases during the 1950-1960 decade. Altogether, the six-state group has a total population of 22.446 million, in round figures, which in itself constitutes a tremendous market in and directly adjacent to Georgia.

Georgia's population, the 1960 census figures show, is 3.917 million, an increase of 13.72 per cent over the 3.444 million recorded in 1950.

At the same time, personal income in Georgia has been steadily gaining at a pace well exceeding the national rate of gain. In the 1940-1959 period, for instance, there was an increase of 436 per cent in personal income in the state, exceeding the national average by 82 per cent.

Blue Book of Southern Progress figures show that total income in Georgia in 1959 amounted to $6.718 billion, and per capita income was $1,722.

Total expenditures in the state were listed at $6.637 billion for 1959, while per capita expenditures amounted to $1,700.

To give you an idea of the pattern of the Georgia market, here is a breakdown on how the retail dollar was spent in the state last year:

Food took 23.26 cents; automotive establishments, 17.45 cents; general merchandise and variety stores, 12.73 cents; apparel stores, 6.11 cents; furniture, home furnishings and appliances, 4.84 cents; gasoline service stations, 7.97 cents; lumber, building material, hardware and farm equipment, 6.93 cents; drugs, 3.36 cents, and eating and drinking establishments, 4.58 cents. The remainder was for miscellaneous purchases.

The ownership of automobiles, which may be regarded as an indication of prosperity and general buying power, has been increasing rapidly in Georgia.

In 1959, for example, there were 1,422,576 motor vehicles registered in the state, a gain of 32,941 over the total for the preceding year and a remarkable 723,941 greater than registrations recorded in 1947. Georgia's postwar rise of 106 per cent in registrations compared with a national average gain of 83 per cent.

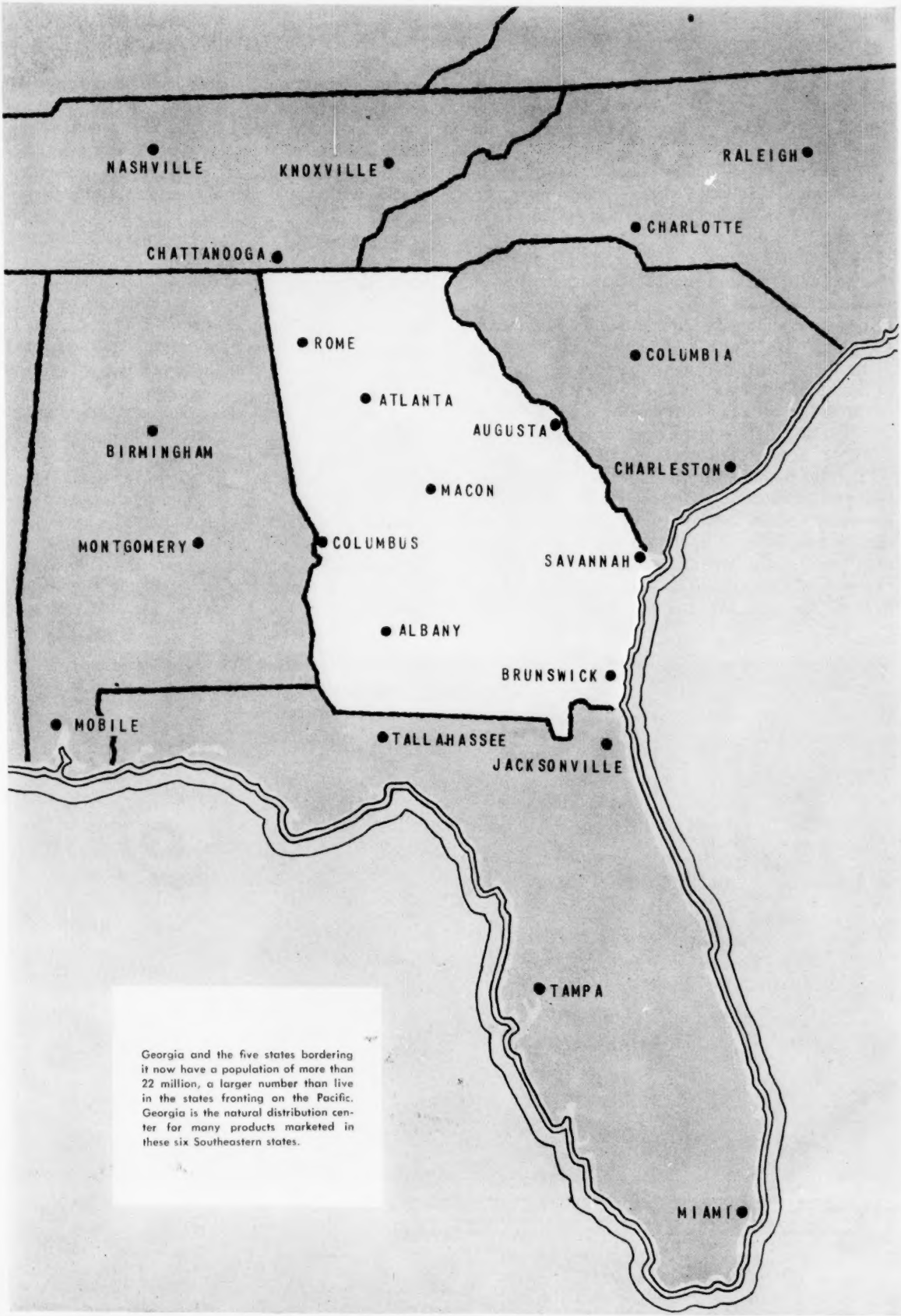
You can see, therefore, that a location in Georgia can give you access not only to an immediate and regional market which is continuously growing in buying power but also to the heavily populated areas of the North and East.

## Happy Industrial Citizens

The effectiveness of Georgia's various plus factors is strongly attested to by industrial leaders who have plants in Georgia.

Down at Valdosta, for example, Executive Vice President L. Kafoure of the Metal Products Division, Thompson Industries, Inc., said of his workers that they "learn readily, take pride in their work, and strive to do what their employer expects of them. The people are independent in their thinking and are not easily led into situations that would be unfavorable to them or their employer. They appreciate fair treatment and respond accordingly.

"Since establishing our operation here 12 years




Georgia and the five states bordering it now have a population of more than 22 million, a larger number than live in the states fronting on the Pacific. Georgia is the natural distribution center for many products marketed in these six Southeastern states.

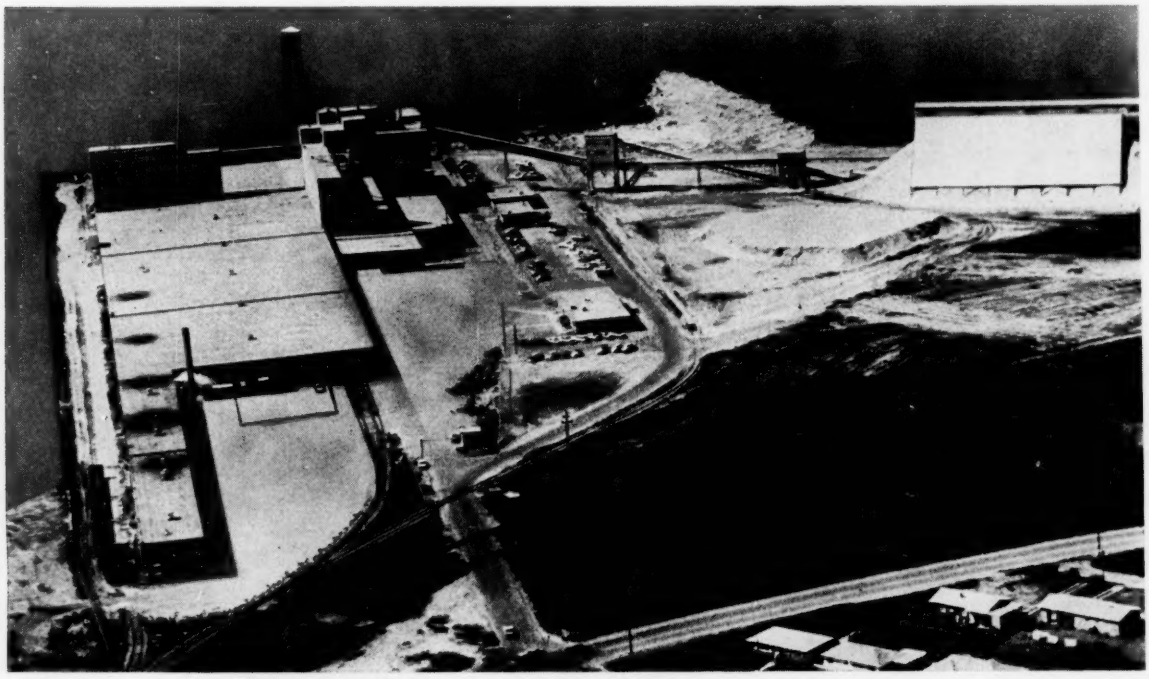
ago," he added, "we have been well satisfied with the supply of labor, the community, and other people with whom we have had to conduct our business."

At Brunswick, Manager Bruce T. Smith, of Allied Chemical's Solvay Process Division plant, explained that the basic factors in selection of the site were "(1) good rail and water transportation; (2) availability of raw materials and (3) strategic location with respect to consumer markets. Just as important as these three factors was the quality of people available in the community to work in the plant." Mr. Smith said further that since the plant opened in 1955 it has "operated in a climate of community friendship and cooperation. The local press has been fair in reporting plant activities and helpful in transmitting to our neighbors the story of Solvay products and Solvay people."

Helpful cooperation was stressed by Manager George L. DeMore of the Scoville Manufacturing Company's plant at Clarkesville. Noting that the facility had been in operation for a little more than three years, Mr. DeMore said, "The degree of cooperation exercised by state and local authoties in the planning and implementing of this operation could not possibly have been improved. Local cooperation was excellent at that time and continues to the present date. The people of our area have proved themselves extremely adaptable insofar as their ability to carry on our type of operation with a moderate amount of training is concerned."

Enthusiastic R. H. Burgess, vice president and director of marketing for Royal Crown Cola Company, Columbus, allows that Georgia has "plenty of water, power, and areas for plant sites, supported by an industrious labor supply. This, of course, supports the business climate other business men in our state government have created within this wonderful state."

A long-time industrial citizen of Georgia is the Cartersville Mill of Goodyear Tire & Rubber Company. Goodyear purchased the property in 1929, and Superintendent W. E. Floyd made the point that all through the years "our relations with officials and citizens of the community have been and are generally friendly and quite satisfactory. Transportation facilities," he continued, "both rail and truck, are plentiful and convenient, and supplies of power, fuel and water are available at a



One of the largest gypsum building products production centers in the world is this recently-opened plant of Bestwall Gypsum Company at Brunswick, Georgia. The plant, which cost $7.5 million, has a production schedule of 250 million square feet of gypsum board annually. This is Bestwall Gypsum's first manufacturing installation on the eastern seaboard, and it serves the Southeastern area.

reasonable cost."

Another industrial veteran is the Savannah plant of National Gypsum Company which, in a little more than 20 years, has grown to be one of the largest gypsum plants in the world. Capacity has been raised to produce enough gypsum wallboard, lath, plaster, and other gypsum building products for 100,000 homes a year. This is a 300 per cent increase over the original plant.

J. J. Burns, manager of the plant, declared that "the outstanding production and distribution of National Gypsum's Savannah operation was made possible by the growing markets of the South." He made the point, too, that Georgia provides a good supply of adaptable and dependable labor for industry, and "the tax situation in Georgia is comparable to that in many other states."

A potent factor in the entire north Georgia area is the giant Lockheed Aircraft Corporation plant at Marietta. In remarking that 1960 marked the beginning of the company's tenth year of operation in Georgia, Lockheed Vice President and Georgia Division General Manager W. A. Pulver asserted: "Each year has brought gratifying experiences and results, for we have found the industrial climate in this state very good. . . We have found Georgia a good place in which to do business and in which to reside. The people by nature are friendly, adaptable to industrial jobs, and conscientious workmen."

An organization which quite obviously has found the state a good place in which to do business is Coats & Clark, Inc., for six of the company's twelve plants are in Georgia — at Toccoa, Albany, Clarksdale, Acworth, Pelham and Thomasville.

Typical of the reaction of the Coats & Clark executives in Georgia is that of R. H. Dickinson, manager of the Albany plant. He said: "The labor supply has been adequate, attitude good, and ability to adapt to our operation has been very good. We have been pleased with the abundant supply of good water; adequate rail, truck, and air transportation; good schools, churches, and recreational facilities."

The great Du Pont organization also is pleased with its Georgia location. K. E. Ackley, manager of Du Pont's Finishes Division facility at Tucker, observed: "Since our paint plant at Tucker began operations in 1956, we have enjoyed excellent busi-

**The sprawling operation of Southern Pipe Coating Company occupies 34 acres at its Atlanta location. Bare pipe is brought to the plant, stored, and then fed through the coating and wrapping process. As a result of efficient handling of pipe, production at the facility has been increased to more than a million feet each month. As may be seen, the area is well served by rail sidings.**

ness relations with all levels of government, chambers of commerce, other industry, and the plant community. We have been able to hire highly capable people to operate our plant, and we have been particularly impressed by the favorable attitude toward industry which prevails both in local and state government and in the community as a whole."

And, so the story goes for literally hundreds of industrial operations in Georgia. In addition to those already mentioned are such national and international companies with plants in the state as General Motors Corporation which has extensive facilities in Atlanta; General Electric Company, with plants at Rome, Chamblee and Augusta; Ford Motor Company, Atlanta; Continental Can, Augusta; Armstrong Cork, Macon; General Time, Athens, and so on.

Also, of course, Atlanta is the birthplace and headquarters of the famous Coca-Cola Company.

## A Strong Diversification Trend

All this adds up to the fact that while farming still provides considerable employment in Georgia, industrial development is proceeding at an accelerated pace in virtually all parts of the state and there is an ever-increasing degree of diversification.

Textiles, the oldest industry in Georgia, is still the largest, but even this — with all the new developments in synthetics and new uses of end products — is becoming much more highly diversified.

Figures contained in the 1960 Blue Book show that in 1959 the great textile enterprises in the state had an output value totaling $1.327 billion, up from $1.082 billion in the previous year.

The Blue Book figures show further that the state has approximately 300 textile plants of various kinds, employing a total of 101,000 persons.

# GEORGIA ECONOMIC DATA

## Business Volume

| INDUSTRY | 1959 Active Estab. (000) | 1959 Persons Engaged (000) | 1959 Output Value $ Mil. | 1954 Output Value $ Mil. | 1947 Output Value $ Mil. | 1939 Output Value $ Mil. |
|---|---|---|---|---|---|---|
| Miscellaneous Rural | .6 | 12 | $ 51 | $ 32 | $ 16 | $ 6 |
| Farming | 158.4 | 175 | 843 | 713 | 672 | 219 |
| Mining | .2 | 6 | 63 | 43 | 29 | 8 |
| **Raw Materials** | **159.2** | **193** | **$ 957** | **$ 788** | **$ 717** | **$ 233** |
| Construction | 7.5 | 84 | 758 | 553 | 285 | 116 |
| Manufacturing | 5.8 | 347 | 5,876 | 3,905 | 2,465 | 677 |
| **Processing** | **13.3** | **431** | **$ 6,634** | **$ 4,458** | **$2,750** | **$ 793** |
| Utilities | 3.2 | 75 | 961 | 655 | 431 | 169 |
| Finance | 6.2 | 49 | 1,513 | 944 | 452 | 179 |
| **Supplementary** | **9.4** | **124** | **$ 2,474** | **$ 1,599** | **$ 883** | **$ 348** |
| Wholesale Trade | 5.6 | 77 | 6,168 | 4,494 | 2,915 | 806 |
| Retail Trade | 38.9 | 198 | 3,799 | 2,954 | 1,905 | 625 |
| Service Trade | 24.0 | 142 | 851 | 752 | 527 | 201 |
| **Distributive** | **68.5** | **417** | **$10,818** | **$ 8,200** | **$5,347** | **$1,632** |
| **Georgia Enterprise** | **250.4** | **1,165** | **$20,883** | **$15,045** | **$9,697** | **$3,006** |

## Manufacturing

| INDUSTRY | 1959 Active Estab. (000) | 1959 Persons Engaged (000) | 1959 Output Value $ Mil. | 1954 Output Value $ Mil. | 1947 Output Value $ Mil. | 1939 Output Value $ Mil. |
|---|---|---|---|---|---|---|
| Food | .9 | 43 | $ 1,158 | $ 860 | $ 479 | $ 135 |
| Tobacco | * | 1 | 15 | 15 | 2 | 1 |
| Textiles | .3 | 101 | 1,327 | 955 | 684 | 217 |
| Apparel | .4 | 47 | 503 | 270 | 225 | 54 |
| Pulp-Paper | .1 | 18 | 574 | 373 | 138 | 30 |
| Printing-Publishing | .5 | 10 | 133 | 89 | 46 | 18 |
| Chemicals | .3 | 10 | 379 | 263 | 244 | 68 |
| Petroleum-Coal | * | 1 | 39 | 21 | 20 | 3 |
| Rubber | * | 1 | 11 | 14 | 1 | * |
| Leather | * | 4 | 44 | 25 | 16 | 11 |
| **Nondurables** | **2.5** | **236** | **$ 4,183** | **$ 2,885** | **$1,855** | **$ 537** |
| Lumber | 2.3 | 31 | 256 | 243 | 286 | 56 |
| Furniture | .2 | 8 | 101 | 66 | 69 | 20 |
| Stone, etc. | .3 | 11 | 142 | 71 | 48 | 13 |
| Primary Metals | * | 5 | 137 | 93 | 21 | 10 |
| Fabricated Metals | .2 | 7 | 101 | 66 | 22 | 8 |
| Machinery | .2 | 9 | 165 | 77 | 46 | 9 |
| Electrical Machinery | * | 5 | 82 | 37 | 21 | 2 |
| Transport Equipment | * | 29 | 638 | 330 | 81 | 17 |
| Instruments | * | 1 | 6 | 1 | 1 | 1 |
| Miscellaneous Mfg. | .1 | 5 | 65 | 36 | 15 | 4 |
| **Durables** | **3.3** | **111** | **$ 1,693** | **$ 1,020** | **$ 610** | **$ 140** |
| **Georgia Manufacturing** | **5.8** | **347** | **$ 5,876** | **$ 3,905** | **$2,465** | **$ 677** |

*Too small to tabulate.

## Urban Business Volume—$ Million

| Urban Area City & County | 1959 All Business | 1959 Other Than Manufacturing | 1959 Manufacturing | 1954 Manufacturing | 1947 Manufacturing | 1939 Manufacturing |
|---|---|---|---|---|---|---|
| Atlanta* | $ 9,450 | $ 7,413 | $2,037 | $1,305 | $ 574 | $ 200 |
| Savannah | 1,394 | 730 | 664 | 399 | 267 | 66 |
| Columbus | 839 | 591 | 248 | 174 | 174 | 46 |
| Macon | 730 | 488 | 242 | 168 | 88 | 28 |
| Augusta | 687 | 515 | 172 | 114 | 91 | 23 |
| Rome | 483 | 311 | 172 | 92 | 92 | 29 |
| Albany | 369 | 315 | 54 | 44 | 26 | 8 |
| Lagrange | 318 | 207 | 111 | 81 | 71 | 21 |
| Gainesville | 287 | 185 | 102 | 56 | 46 | 9 |
| Brunswick | 247 | 82 | 165 | 88 | 50 | 8 |
| Athens | 244 | 186 | 58 | 38 | 25 | 7 |
| Valdosta | 233 | 179 | 54 | 35 | 23 | 5 |
| Waycross | 151 | 117 | 34 | 22 | 6 | 3 |
| **Total Urban** | **$15,432** | **$11,319** | **$4,113** | **$2,616** | **$1,533** | **$ 453** |
| **Non-Urban** | **$ 5,451** | **$ 3,688** | **$1,763** | **$1,289** | **$ 932** | **$ 224** |
| **Georgia** | **$20,883** | **$15,007** | **$5,876** | **$3,905** | **$2,465** | **$ 677** |

*Three counties.

## Urban Income and Expenditure

| Urban Area City & County | 1950 Population (000) | 1959 Population (000) | 1959 Area Income $ Mil. | 1959 Per Capita Income | 1959 Expenditure $ Mil. |
|---|---|---|---|---|---|
| Atlanta* | 664 | 990 | $3,069 | $3,100 | $2,350 | $2,373 |
| Savannah | 151 | 200 | 436 | 2,180 | 366 | 1,831 |
| Columbus‡ | 130 | 175 | 269 | 1,537 | 307 | 1,754 |
| Macon | 114 | 145 | 233 | 1,607 | 229 | 1,579 |
| Augusta† | 109 | 170 | 223 | 1,312 | 272 | 1,600 |
| Rome | 63 | 80 | 154 | 1,925 | 119 | 1,488 |
| Albany | 43 | 60 | 122 | 2,033 | 121 | 2,017 |
| Lagrange | 50 | 60 | 101 | 1,683 | 90 | 1,500 |
| Gainesville | 40 | 53 | 91 | 1,717 | 91 | 1,717 |
| Brunswick | 29 | 45 | 74 | 1,644 | 73 | 1,622 |
| Athens | 37 | 50 | 79 | 1,580 | 80 | 1,600 |
| Valdosta | 35 | 50 | 76 | 1,521 | 77 | 1,540 |
| Waycross | 30 | 35 | 49 | 1,400 | 50 | 1,429 |
| **Total Urban** | **1,495** | **2,113** | **$4,976** | **$2,355** | **$4,225** | **$2,000** |
| **Non-Urban** | **1,938** | **1,787** | **$1,742** | **$ 975** | **$2,412** | **$1,350** |
| **Georgia** | **3,433** | **3,900** | **$6,718** | **$1,722** | **$6,637** | **$1,700** |

*Three counties.
‡Does not include Alabama suburbs.
†Does not include South Carolina suburbs.

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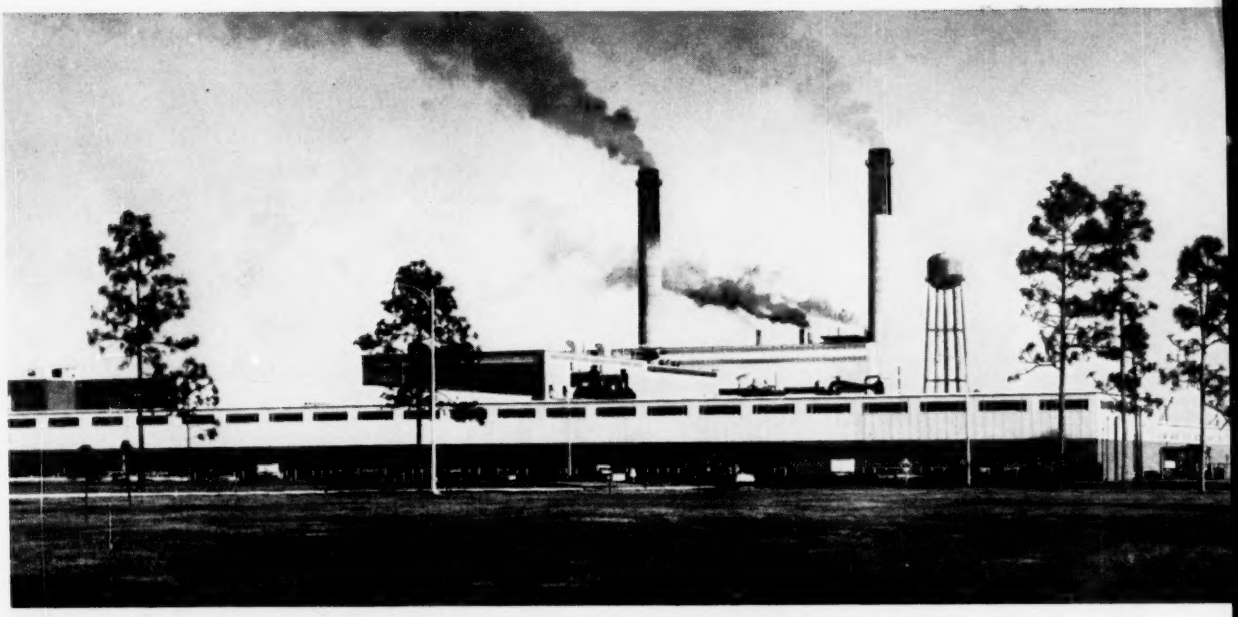
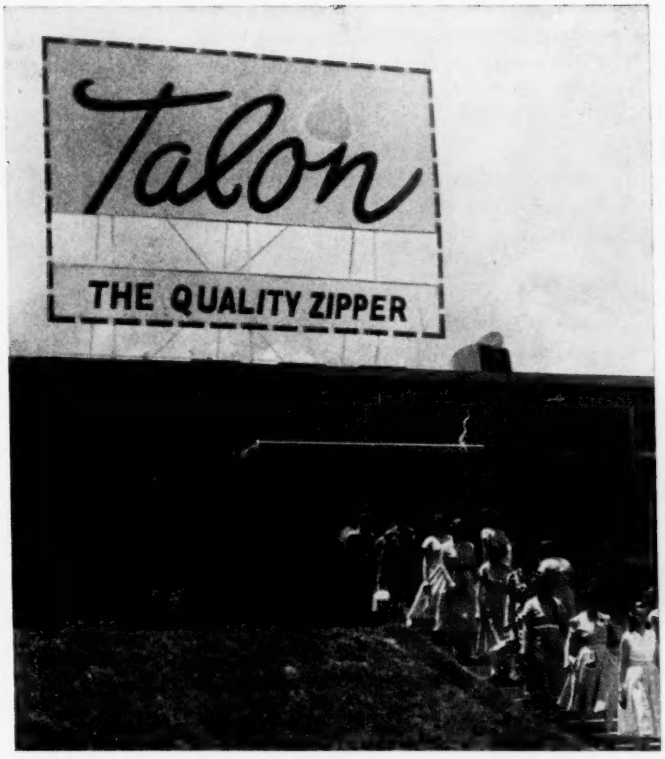
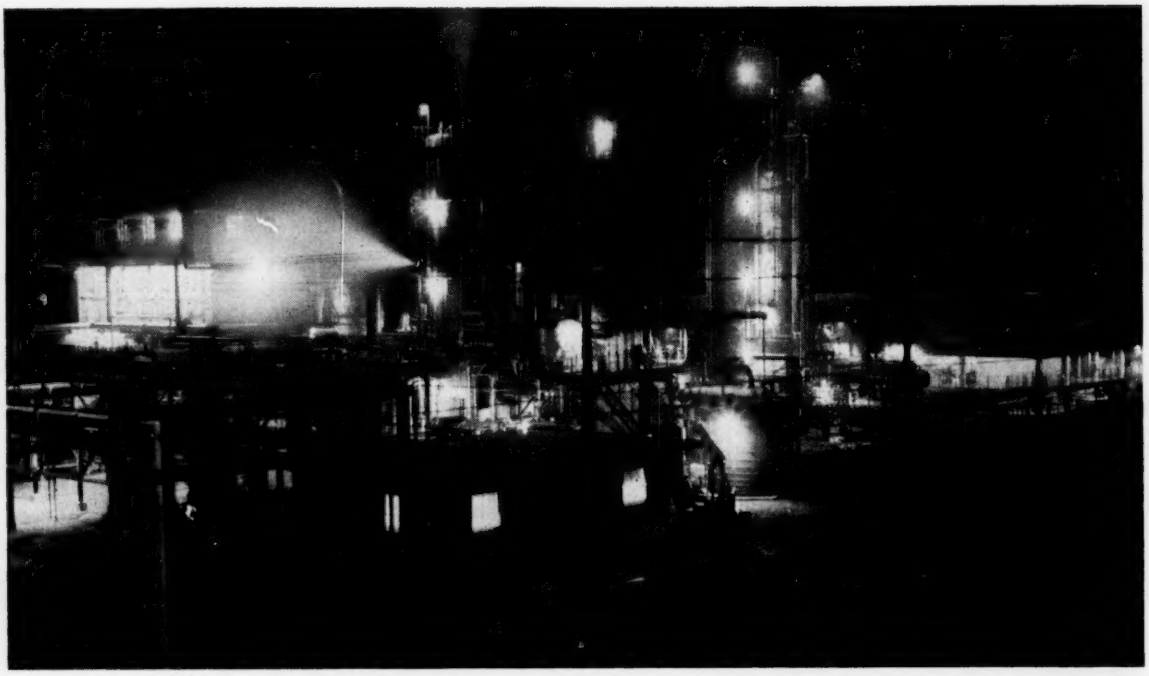


The flat country in the "piney woods" area of southern Georgia has provided an ideal location for Rayonier's operation at Jesup. Shown in profile are the company's two "mirror image" cellulose mills which make up the Jesup Division.




The community of Cleveland in northeast Georgia is the site of this plant which produces Talon zippers. The operation, which draws its workers from the immediate area, is another example of the growing diversification of Georgia's industrial scene.



Shown in an impressive night view is the facility of Southern Nitrogen Company at Savannah. This operation is one of an extensive industrial complex located in the coast city to take advantage of the port facilities and other favorable factors.

The second largest industry in Georgia is food products. The 900 establishments in this category provided employment for 43,000 persons and had a total output value of $1.158 billion in 1959.

Other important industry categories and their output value last year included transportation equipment, $638 million; apparel, $503 million; chemicals, $379 million; and pulp and paper, $574 million.

Taking all Georgia enterprise as a whole, including farming, there were approximately 250,400 active establishments operating in 1959. They employed 1.165 million persons and had a total output value of $20.883 billion. The latter figure compares with total output value of $15.045 billion in 1954 and $9.697 billion in 1947.

Figures compiled by the Georgia Department of Commerce show that during 1959 the state gained 159 important new plants — those with an initial capital investment of at least $50,000 — which represented a total new capitalization of approximately $76.6 million.

At the same time, 62 existing plants were expanded at a total cost of $58.6 million.

These new plants and the expanded operations resulted in 15,000 new jobs and an additional payroll totaling $43 million.

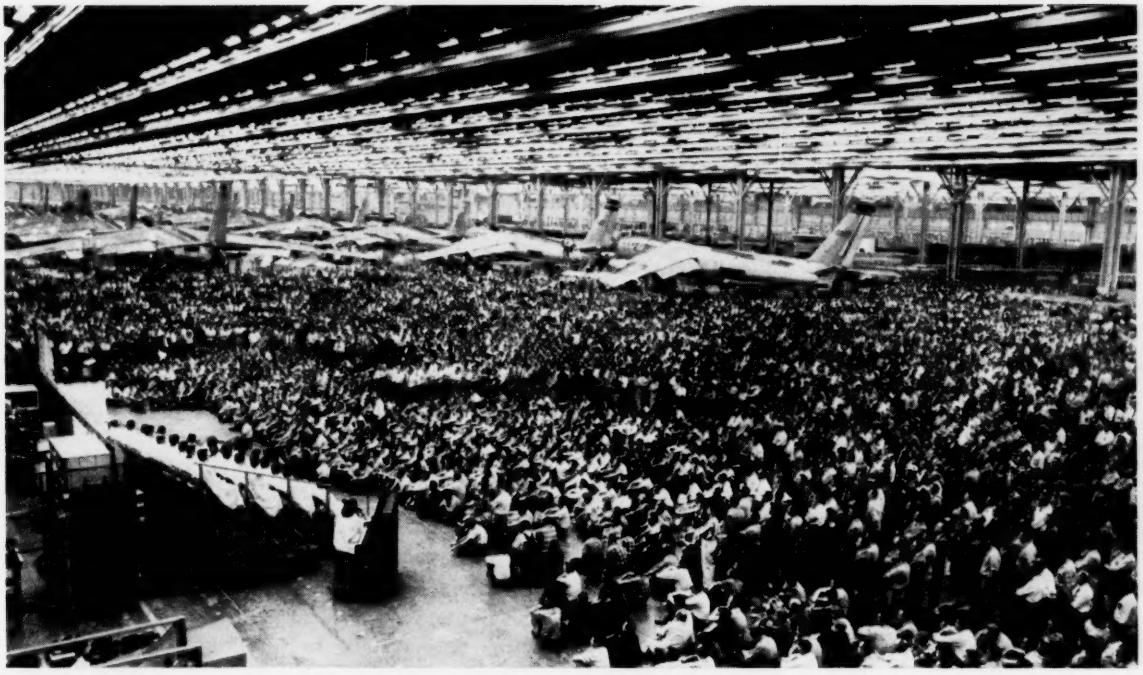
The new plant listings carried each month in INDUSTRIAL DEVELOPMENT, and which cover only those facilities which provide initial employment of 25 or more, show that in the January through August period this year there were 44 major new manufacturing enterprises announced in Georgia.

## A Potential of 250,000 Workers

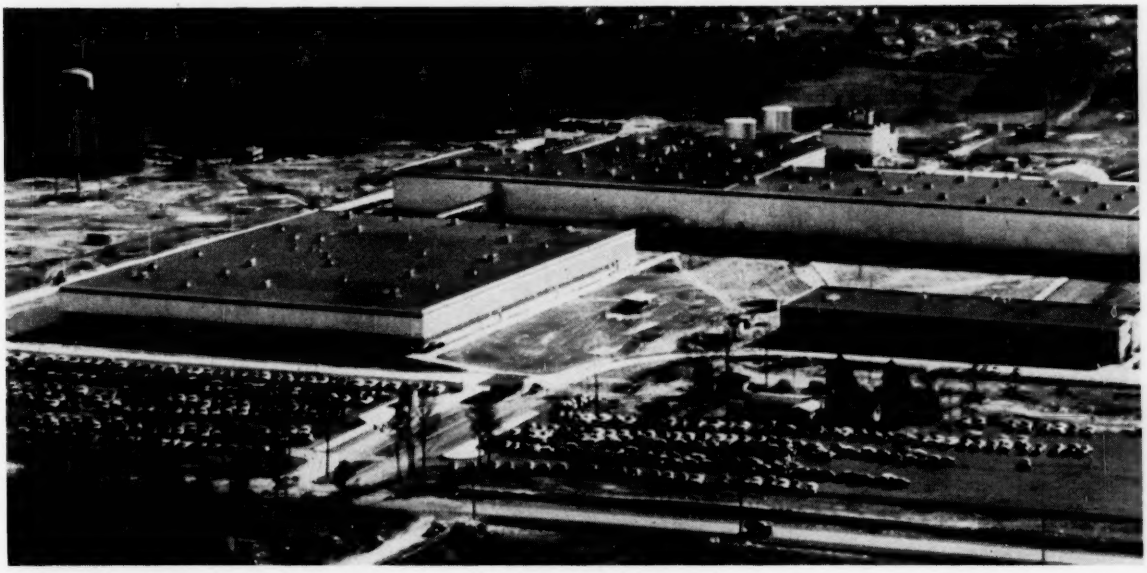
The Georgia State Employment Service has estimated that Georgia has, over-all, a potential available work force of 250,000.

This resource of people has been described as one of the state's "most forceful advantages," and the work force is constantly being augmented by the approximately 30,000 boys and girls who graduate from Georgia high schools each year, many of whom seek industrial employment.

As we noted previously in the comments of typical industrial leaders in various parts of the state, it has been found that the work force in Georgia is of proved ability and loyalty and made up of men and women who are willing and anxious to work.



A dramatic presentation of manpower available in Georgia is this view of a gathering of employees at the huge plant of Lockheed Aircraft Corporation at Marietta. This plant has played and is continuing to play a major part in the production of military aircraft for the U. S.



Playing an essential role in providing power for the Southern economy is this plant at Rome of General Electric Company. Producing medium power transformers, the Rome facility cost in the neighborhood of $20 million and is among the most modern and highly automated in the world. It was completed in 1952.

As of mid-1960, total nonagricultural employment was tabulated at 1,022,400 workers on the job. Of that figure, 336,900 were engaged in manufacturing pursuits, and a further breakdown showed 103,100 in durable goods industries and 233,800 working in nondurable goods plants.

The next highest category of employment was trade, with 223,000 workers on the job, and third was government — federal, state and local — which provided jobs for 124,400.

The Georgia Department of Commerce stresses that there is no "cheap labor" in Georgia, as the workers are the sort who "produce an honest hour's work for an honest hour's pay."

For example, many manufacturers who have plants in Georgia and in other parts of the nation declare that per manhour production in the state well exceeds that of other areas. Thus, while you may find a marked difference in labor costs in Georgia, this results not so much from lower wage rates but from higher efficiency of Georgia workers.

Employment service figures on typical wages earned by Georgia workers show that as of mid-1960 the average manufacturing wage was $66.23 a week. The average for durable goods was $71.28, while the figure was $64.56 for nondurable goods workers.

Among selected industries wages ranged from a low of $47.60 for lumber and wood products workers, except in furniture, to a high of $113.70 for those in printing, publishing and allied industries.

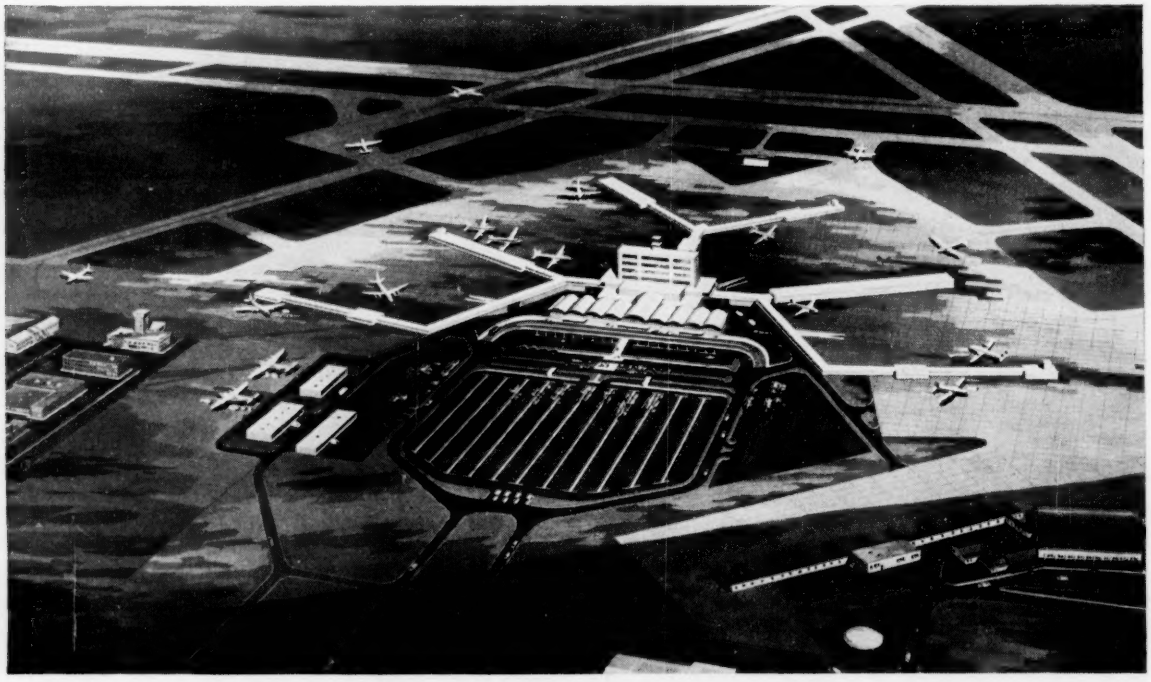
Another primary factor in your consideration of Georgia as a plant location is that the state has a "right to work" law and was one of the first states to enact such legislation.

With state administrations which recognize the inherent right of all citizens to work unencumbered by union rules if so desired, there is assured state as well as local-level resistance to unwarranted disturbances.

Since labor relations have been generally good, historically, in Georgia, actual disturbances are a rare exception.

## Customers Are Easy to Reach

The facilities for travel and the hauling of goods in and out of Georgia are excellent, you will find, whether it be by air, highway, railroad or waterway.



The new and ultra-modern Atlanta Airport Terminal building and grounds, shown in an architect's sketch, is now nearing completion and will be second to none in the country. The airport, one of the world's busiest, is served by five trunk airlines and one local service carrier, as well as by strictly freight lines. Jetliner flights in and out of Atlanta put Georgia only a few hours away from the most distant major cities in the nation.

Atlanta is headquarters for Delta Air Lines, the nation's fifth largest scheduled air carrier, which was the first to inaugurate jet airliner service for this area. Delta currently is operating big fleets of DC-8 and Convair 880 jets, and more are on order.

The other trunk air lines serving Georgia are Eastern, Capital, National, Northwest and Trans World, each of which is rapidly increasing its fleet of jet or turbo-prop planes.

Southern Airways, a local service carrier, also has headquarters in Atlanta and provides commuter and connecting service between a number of cities in Georgia and other states of the Southeast.

In addition to the Atlanta airport, which ranks fourth in the nation in scheduled departures, there are big airports with regular scheduled service at Rome, Athens, Augusta, Savannah, Brunswick, Waycross, Valdosta, Moultrie, Albany, Columbus, and Macon.

For ground transportation, Georgia has a road system totaling 88,890 miles. Of this, the State Highway Department maintains 14,500 miles of paved highways and 1,197 miles of unpaved roads.

The smaller communities have access to the primary highways through an extensive system of well-maintained county roads.

A continuing multimillion-dollar program of road improvement and new highway building is underway to provide much better ground travel in the future.

Georgia also will be served by several major highways in the new Interstate System. These include north-south routes 95 and 75; east-west route 20; route 16 which will cross the state diagonally from southeast to northwest, and route 85 which crosses from the central southwest area to the northeast.

Operating over Georgia highways are some 100 scheduled motor freight carriers, and many of these operate wholly in interstate transportation. There also are about 400 irregular route carriers, contract haulers and specialized commodity carriers.

Thirty-four of the regular route carriers operate daily schedules between most Georgia points, while the irregular carriers serve other points. Most Georgia communities get third-day service to such centers as New York, Philadelphia and Chi-

A pioneer in the railroading picture, Georgia has rail lines criss-crossing the state from one end to the other. The movement of freight is greatly facilitated by such installations as this Hills Park classification yard of the Louisville & Nashville Railroad. The main yard office is at left, while the retarder tower is at left center. The yard has room for 752 cars and can handle up to 2,000 cars a day.

cago.

Motor passenger service is provided by 60 carriers offering fast schedules to most cities and towns.

Georgia is fortunate, too, in having railroads criss-crossing the state in all directions. There are 31 rail carriers altogether, 13 of which are Class I railroads. They operate in Georgia 5,931 miles of main and branch line track, as well as track operated under lease agreement, not including yard, terminal or double track.

Modern and completely dieselized, the railroads serving Georgia are prepared to give adequate and dependable freight service, and many of them operate streamlined, luxury passenger trains.

The facilities for transportation by water are being greatly enhanced as the result of the rapid development of Georgia waterways by the U.S. Corps of Engineers. Presently underway is major construction on the Chattahoochee and Savannah Rivers.

When current projects are completed by 1962 there will be a channel nine feet by 100 feet wide from the Gulf of Mexico and Gulf Intracoastal Waters on the Flint River to Bainbridge and on the Chattahoochee River to Columbus.

Bainbridge became operative as an inland port in 1957, and since that time has been receiving an increasing amount of waterborne cargo.

Work being carried out on the Savannah River between Augusta and Savannah, a distance of 199 miles, will result in widening and deepening of the channel and will greatly increase Augusta's importance and usefulness as an inland port.

With the various projects now underway, plus those planned, it is expected that within the next five years Georgia will have more than 500 miles of waterways serving principal cities.

## Georgia Has Two Ocean Ports

For shipping and receiving coastwise and international water cargo, Georgia also has two deepwater natural harbors, one at historic Savannah and the other at Brunswick.

An inkling of how important these ports are to business and industry may be seen in the fact that during the first quarter this year exports and imports passing through Savannah and Brunswick were 31 per cent higher in value than was the volume for the like 1959 period.

The dollar value of exports moving through the ports in the 1960 first quarter was $59.9 million, while the figure for imports was $24.4 million. The export dollar value gain over the 1959 like period was $9.1 million, and the import value increase was $3.8 million.

U.S. Department of Commerce figures show that the 31 per cent increase in the state in total trade compared with gains of 26 per cent in New Orleans district, 8 per cent in North Carolina, 4 per cent in Mobile, and 2 per cent each in South Carolina and Florida.

The Port of Savannah operates four deepwater terminals which provide 26 berths. These have sufficient marginal tracks, shed and warehouse space to handle substantial cargoes. Twelve industrial firms in Savannah utilize their own piers.

The terminals offer the most modern equipment for the economic handling of cargoes, and the port has in use heavy lift gantry cranes, fumigation plant and compress equipment.

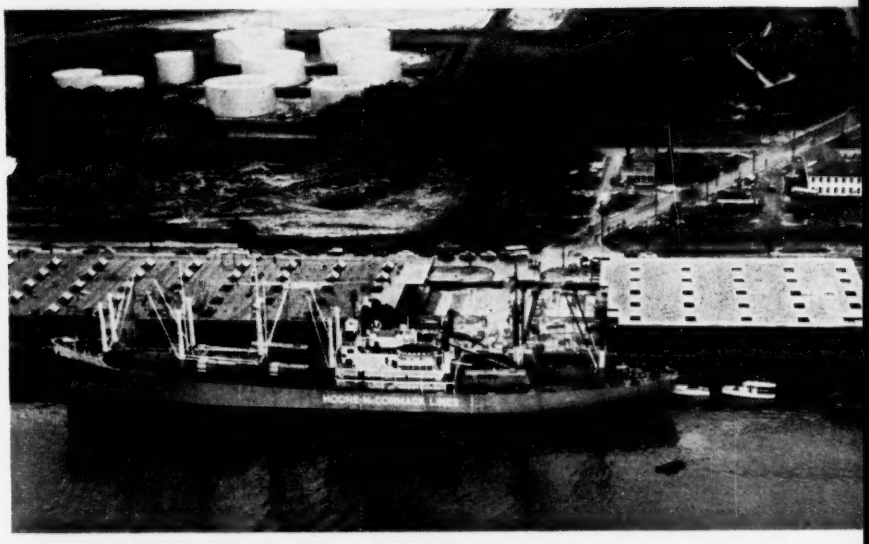
Altogether, general services at the port are well established to meet the requirements of foreign trade, including offices of various Government departments and bureaus concerned.

The Savannah harbor is 31.05 miles long. Except for a short distance in the upper harbor, where the project depth is 30 feet, the project depth is 36 feet across ocean bar and 34 feet throughout the length of the harbor. Recently completed was an extension of the 34-foot channel and additional turning basin opposite the Savannah State Docks.

Important, too, is the fact that at Savannah the Georgia Ports Authority recently acquired a waterfront property of 388 acres which was the Whitehall Plantation. Since this land is adjacent to the Savannah State Docks' Garden City Terminal, it is especially suitable for industry requiring the economies of waterborne commerce.

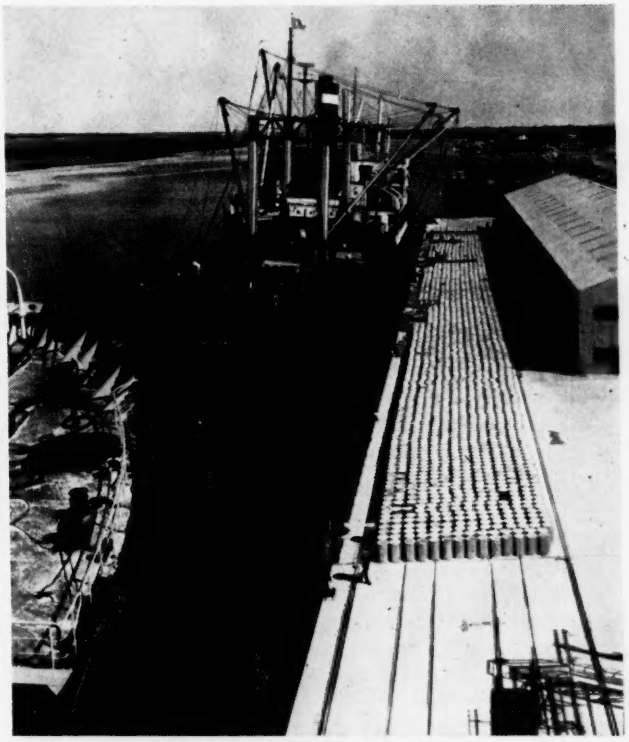
As the result of a modernization program launched two years ago, the Port of Brunswick is now in a position to handle export and import cargo with the most up-to-date equipment. The Lanier Docks, representing an investment of $1.2 million, were put into operation in the early fall of 1959 by the Brunswick Port Authority and are especially suitable for the handling of bulk materials.

The second phase of the two-part building program was just completed and formally dedicated in August. Adjoining the Brunswick Port Authority's 500-foot-long dock and built as an extension to it is another 500-foot dock complete with warehouses and transit sheds. This addition, costing approximately $2 million, was financed with state funds by the Georgia Ports Authority but is

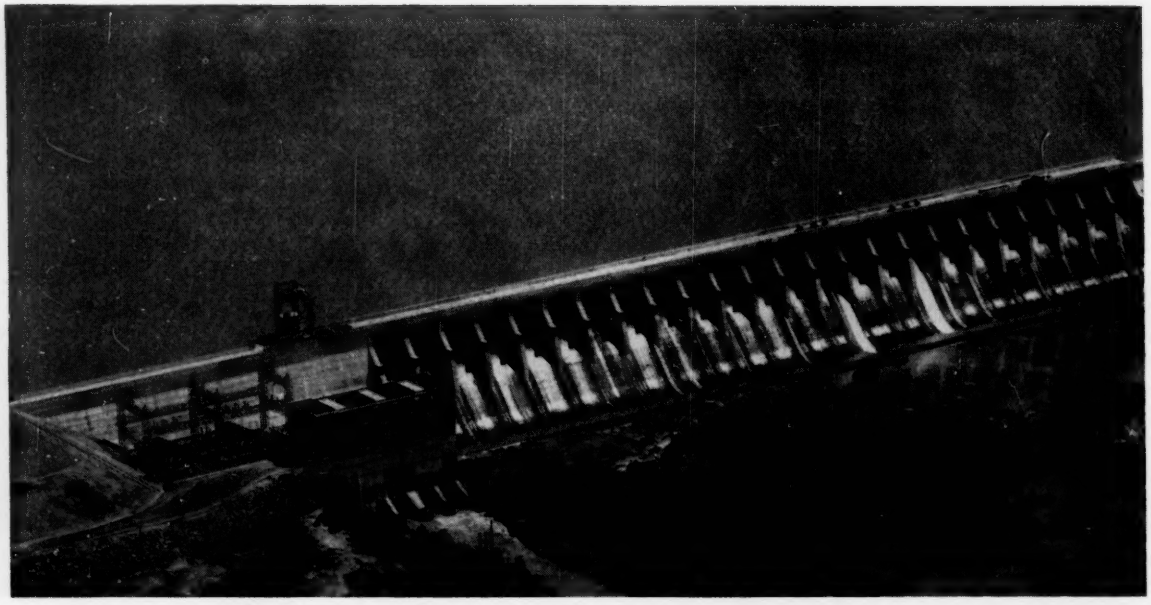


Georgia's biggest port is at historic Savannah. With the most modern equipment, the Port of Savannah operates four deep-water terminals which provide 26 berths. These have sufficient marginal tracks, shed and warehouse space to handle substantial cargoes, as is indicated by this big ship of Moore-McCormack Lines unloading at one of the docks.

Bainbridge, on Georgia's Flint River, has been operative as an inland port since 1957 and is receiving an important amount of water-borne cargo. This is one of the big mobile cranes which operates at the Bainbridge docks.



The American Miller was the first ship to call at the new Brunswick State Docks to load cargo. Formal dedication of the docks, operated by the Georgia Port Authority, was held in August, 1960. The Brunswick port now has the most modern equipment to handle export and import cargo.



Sinclair Dam and generating plant is located on the Oconee River four miles north of Milledgeville. The reservoir, covering 334,000 acres, provides one of Georgia's outstanding recreation sites, as well as flood control and a huge reserve of water. The plant has a generating capacity of 45,000 kilowatts.

being operated jointly with the municipally owned Brunswick Authority property.

The two docks form a continuous concrete apron capable of berthing three medium-sized cargo ships.

Besides the facilities operated by the Ports Authority, several local companies have their own piers along some of the waterways draining into Brunswick Harbor. Here, they load and unload cargo from barges operating coastwise or over inland waterways.

## Water A Special Attraction

In addition to the present and potential importance of Georgia's rivers for handling barge and boat traffic, these rivers and their tributary streams provide dependable flows of water to meet the needs of the growing population and of expanding industry.

The system of dams that have been and are being built on various rivers in the state are providing not only navigable channels but also great reservoirs of water for both general use and hydroelectric projects.

Completed reservoirs include lakes Allatoona near Cartersville, Clark Hill north of Augusta, Jim Woodruff and Seminole near Bainbridge, and Buford and Lanier near Gainesville.

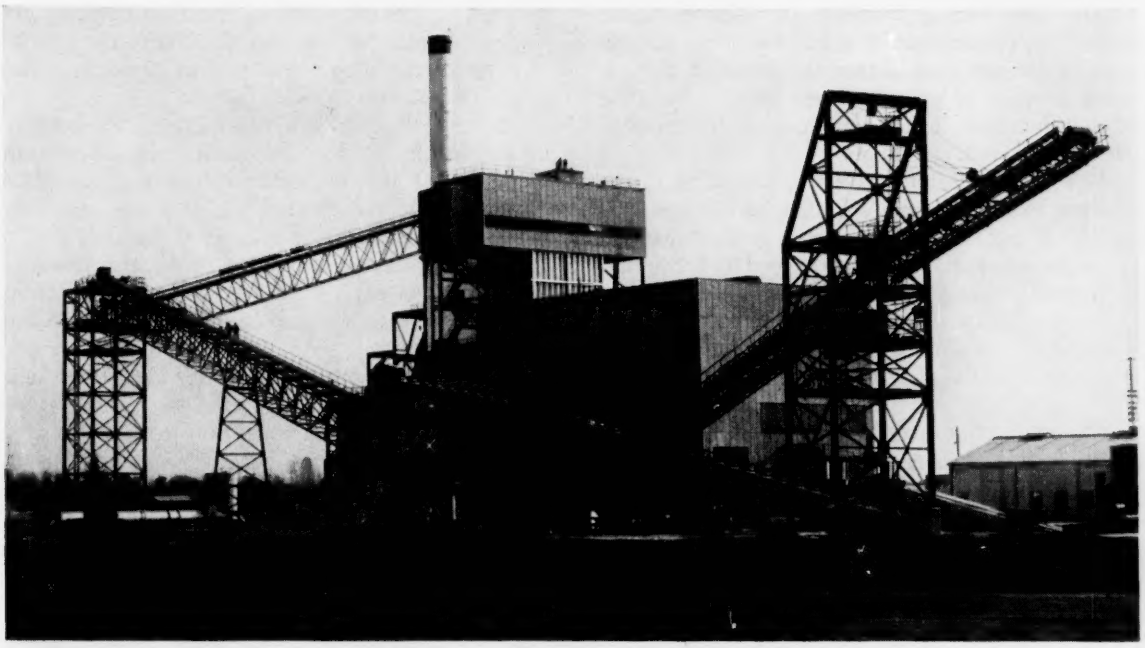
Under construction is the Walter F. George Lock and Dam on the Chattahoochee, and the Hartwell Dam near Hartwell. Being built by the Corps of Engineers, as were the other projects, these dams are scheduled for completion in 1963. During 1959 alone, the Engineers spent approximately $72.5 million in Georgia.

Provided by Georgia cities and towns are some 400 public water systems. These systems generally can supply water for any facility other than very large process industries. Plants of this type would have to be located on major streams or where abundant ground water is available.

In the Coastal Plain region, which is below the fall line and covers about half the area of the state, ground water is usually available in abundance. This water varies in hardness from three parts per million in the upper Coastal Plain to more than 350 parts per million along the Southern coastline. However, the state's rivers are very low in mineral content, generally from 20 to 50 parts per million.

## Power Output Increasing Rapidly

In 1959 the electric generating plants in Georgia produced approximately 12.7 billion kilowatt-hours of electricity, as compared with 11.4 kwh in 1958. And, with projects currently underway and those planned, this generating capacity will be greatly increased in the future.



An important plus factor in Georgia is the dependable supply of electric power for industrial, commercial and residential use, and this is being constantly increased through extensive construction and improvement programs. This is the Port Wentworth Station of Savannah Electric and Power Company.

The Georgia Power Company is the state's major utility, as it serves approximately 90 per cent of the area of Georgia. This is the company's Plant Atkinson, a steam-electric generating unit and one of many distributed over the state. Altogether, during the past 10 years installed generating capacity in Georgia has been increased by 200 per cent.

Actually, during the past 10 years installed generating capacity in Georgia has increased by close to 200 per cent, a rate far ahead of the national average of growth. Since 1939, in fact, the rate of increase in Georgia has nearly doubled that of the nation as a whole.

The major electric utility in the state is the Georgia Power Company which serves approximately 90 per cent of the state's area. Savannah and adjacent coastal areas are served by Savannah Electric & Power Company, while the Crisp County Power Commission provides electricity in that county. Also, a small area in the North Georgia mountains is served by the Tennessee Valley Authority. Rural Electrification Administration facilities serve 98 per cent of Georgia's rural homes.

Indicative of the efforts being made to assure consumers an adequate supply of electricity for all present and future needs is a huge new project that Georgia Power has underway.

The company broke ground late in July this year to begin construction on a $76 million steam-electric plant at a site on the Chattahoochee River 12 miles north of Atlanta. To be named Plant McDonough, after Company President John J. McDonough, the plant will have a total generating capacity of 500,000 kilowatts.

There will be two 250,000-kilowatt generating units, and the first of these is scheduled to be completed in the spring of 1963. The second will go into service a year later.

Georgia Power is one of the four operating electric utilities in The Southern Company system, and it also has interconnections with other systems which make available additional or emergency generating capacity when needed.

Since the state is thoroughly blanketed with transmission lines, you can expect to get adequate power service virtually anywhere you may wish to locate in Georgia. Important, too, is the fact that costs for both residential and industrial power here are among the lowest in the nation.

## Fuels Are Plentiful

Supplementing the electric power available in Georgia are plentiful supplies of the various fossile fuels to meet the needs of commerce and industry, as well as residential requirements.

Natural gas is available in most Georgia areas, while LP or manufactured gas is supplied to the greater part of those communities which do not have natural gas service.

The three major pipeline companies bringing gas into the state are Southern Natural Gas Company, Transcontinental Gas Pipeline Company and South Georgia Natural Gas Company. The cost to the consumer of natural gas in Georgia ranks among the lowest in the country.

Industrial fuels and heating oils are readily available throughout the state, and since bulk storage facilities are located at the ocean terminals in Savannah and Brunswick, you can get economical inland delivery by truck or tank car.

Refined liquid petroleum products also are brought into Georgia via the systems of Plantation Pipe Line Company and Southeastern Pipe Line Company.

Because of Georgia's proximity to oil fields and the availability of low cost transportation, fuel oil prices in the state are consistently lower than in many other areas of the nation.

For operations that require the use of coal for any purpose, Georgia is advantageously located due to the fact it is close to the sources of supply in Alabama, Kentucky, Virginia and Tennessee which have supplies of bituminous coals suitable for virtually any need.

## Agriculture Still Important

Although the income derived from manufacturing in Georgia now far exceeds that from agriculture, farming continues to be an important part of the state's economy, and Georgia leads all other states in the production of several major agricultural products.

According to Blue Book figures, there were 158,400 active farms in operation in Georgia last year. These farms, with a total of 175,000 workers, had an output value of $843 million.

Georgia is first among all the states in the production of such things as broilers, watermelons, peanuts, velvet beans, blue lupine seed and pecans. It is also famous for its pimientos, as 95 per cent of the nation's output of these peppers is grown and packed in the state.

Additional crops high in importance in Georgia, besides cotton and tobacco, include corn, oats, hay, wheat, sweet potatoes, peaches, cantaloupes, field peas, sugar cane, apples, pears, tung nuts, barley and Irish potatoes. The luscious peach, too, holds an honored place.

While cash farm income from livestock declined in 1959 as compared to the previous year — $375 million last year and $416 million in 1958 — livestock is continuing to grow in importance in Georgia's long-range agricultural picture. Included, in addition to broilers and poultry and poultry products, are cattle and calves, hogs and dairy

The fluffy puffs of versatile fiber that grow on cotton plants are a common sight in Georgia, and cotton continues to be one of the state's basic agricultural products and the raw material for many of its extensive textile operations.

The license tags on the nearly 1.5 million motor vehicles registered in Georgia proclaim this as the "Peach State," which attests to the fact that some of the finest peaches anywhere are grown here. This picture of a "Georgia Peach" and a peach branch full of the luscious fruit was taken in an orchard at Marshallville.

One of Georgia's outstanding natural resources is its trees which cover more than 63.8 per cent of the state's area and which provided last year various products valued at a total of $750 million. The eight-year-old pines shown are well on their way to becoming valuable for use as pulpwood or lumber.

products. The state leads the Southeast in output of hogs.

With the tremendous growth of the pulp and paper industry and other wood-using activities, Georgia's crop of trees has assumed an increasingly significant role. About 25 million acres, or over 63.8 per cent of the state's area, are covered in trees. These forests in 1959 produced various products valued at a total of $750 million, and it is estimated that 200,000 persons are employed in the state's wood-using industries. Lumbering alone provided employment for 31,000 and had an output value of $256 million.

In the production of pulpwood, Georgia holds first place among all the Southern states. It is tops nationally in the acreage of privately-owned forest land, and is also the nation's leader in the amount of private and state forest acreage under continuous fire protection.

The state also is doing a good job of reforestation, as the Southern Pulpwood Conservation Association reports that last year pulp and paper companies and independent suppliers planted a total of 83.043 million trees in Georgia. This was the second highest number of new trees planted in 11 Southern states.

An important part of the over-all forest industry is the production of naval stores, including such things as turpentine and resin, as output of these products in Georgia is more than in all other states combined and comprises more than half the naval stores produced in the world. Taken from the sap of pine trees, naval stores products make up raw materials which are used in the manufacture of more than 300 end products.

## Minerals Grow in Value

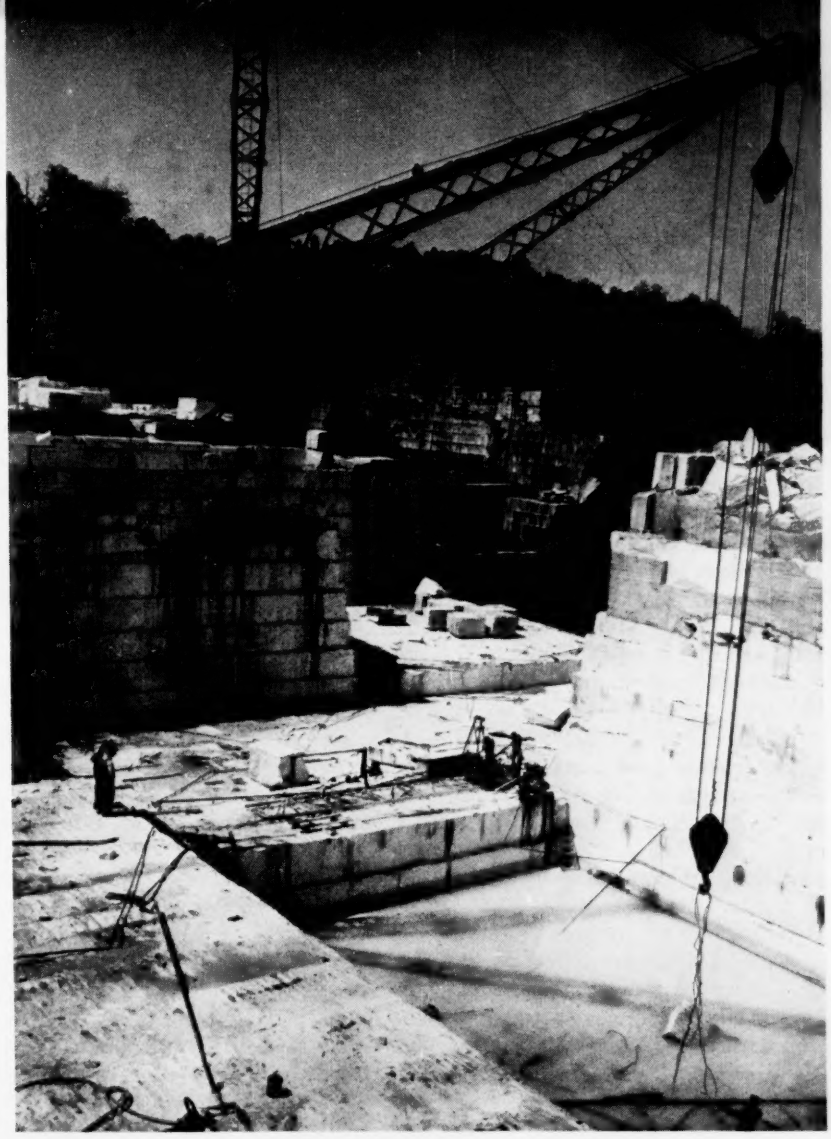
Forming the base for a number of important and expanding industrial operations in Georgia is the state's reserve of mineral resources.

Georgia is first in the nation in the production of marble, and beautiful examples of that stone from Georgia quarries can be found serving various uses not only all over the U.S. but also in many foreign countries.

The state also leads in the production of Kaolin, as it supplies some three-fourths of the nation's requirements for that mineral. Kaolin is used principally as filler and coating material for white paper, and is utilized also in the manufacture of pottery, rubber, fire brick, and many other products.

Georgia's rank nationally in output of other

These slabs of granite were sliced from a quarry at Elberton. The stone is used for a variety of purposes, including building and for monuments, and is the basis for one of the older, and substantial industries in Georgia.



Marble, which is found primarily in the northern part of the state, is another mineral for which Georgia is famous. Examples of Georgia marble in handsome buildings and statuary may be found not only all over the United States but also in many foreign countries. The state leads the nation in the output of marble.

minerals is first in ocher, second in fuller's earth and granite, third in bauxite and mica, and fourth in talc.

Production of dimension and crushed stone is a dominant part of Georgia's mineral picture, and only one state in the nation exceeds its output of monumental and building granite.

Additional minerals produced in substantial quantities include barite, Portland cement, iron ore, limestone, sheet and ground mica, sand and gravel, and slate, while flagstone, feldspar, manganese, gold and kyanite are mined in small to moderate quantities.

Also found in Georgia, and holding possibilities for development in commercial quantities, are copper, chromite, bentonite, corundum, olivine, tripoli, vermiculite, ilmenite, rutile, zircon, monazite, sillimanite and halloysite.

The Blue Book placed output value of mining operations in Georgia at $64 million last year, up from $43 million in 1954 and $29 million in 1957.

## The Expanding School System

To provide the best of the three "R's" and a full high school curriculum for children in every nook and cranny of the state, Georgia has 1,945 public schools which in 1960 racked up an enrollment of a million pupils.

Taking note that Georgia is balancing agriculture and industry in its economy, State Superintendent of Schools Claude Purcell observes: "We intend to give to our people in industrial jobs the

same good service which we have rendered through the schools to those on the farms."

During the current fiscal year, Georgia is spending more than $176.7 million for publication, and this accounts for 52.4 per cent of the state revenue.

Supplementing the regular 12 years of public school education are the area trade schools which will offer up-to-date courses in technology as well as other studies. Two tuition-free state trade schools already are in operation, and there ultimately will be up to 15. Each community, of course, also offers vocational training services as a part of the local school operations.

Facilities of the Georgia Department of Education include the world's largest audio-visual film-and-tape library. It has 4,339 film titles, 45,047 prints and 6,200 tapes. Films in the library cover everything from stars to snails and hydrogen to Hamlet.

In the rural and suburban areas, 1,480 school buses provide free transportation from home to school and back for 446,000 children. Since 1937 free textbooks have been provided for every child in the public school system at a cost per child far less than if the books were furnished individually by parents.

As part of the aggressive school program, this past January Governor Vandiver made available more than $19 million in additional funds for the 1960-61 school year. At the same time he provided an increase of $2.5 million for the University of Georgia System and $750,000 more for teacher retirement.

It must be recognized, of course, that Georgia, in common with the other Southern states which traditionally have maintained segregated public schools is faced with problems in connection with legal moves that have been made in an effort to force integration.

As has been thoroughly reported in the national press, the two major patterns of thought on the subject in Georgia are represented by those who would preserve segregation at any cost and those who are in favor of the passage of legislation which would allow the freedom of choice at the local level.

## The Nation's First State University

The University of Georgia, Athens, was chartered in 1785 as the first state university in the United States, and it was opened in 1801.

Since that time facilities for advanced education in the state have been continuously improved and expanded. The result is that today Georgia has 23 colleges and universities, four specialized teacher's colleges, 17 junior colleges and seven professional schools. There also are 10 colleges and universities for Negro students.

Included in the totals above are 19 senior colleges and junior colleges which are in the University of Georgia System and which are well distributed over the state.

There are two medical schools in the state, the Medical School of Georgia in Augusta and Emory University Medical School in Atlanta.

An important part of college activity in Georgia is research, the principal institutions engaged in research work including the University of Georgia, the Georgia Institute of Technology, and Georgia State College of Business Administration.

These, together with Emory University, will spend an estimated $10 million on research activities during this year.

Georgia Tech's Engineering and Experiment Station comprises the largest engineering and scientific university research agency in the South. Its current rate of expenditure is $3.5 million annually. Work is carried on in many branches of science and engineering technology, as well as economics, and it may be anywhere from local to worldwide in scope.

At Emory, research is primarily oriented toward medical, biological and health science problems, but also covers economics. Emory's expenditures for research are about $2 million a year.

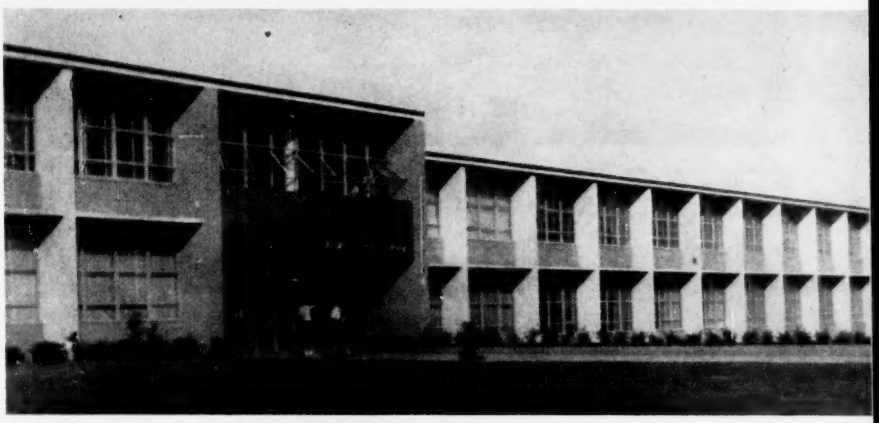
Outstanding among research facilities operated by private industry is the multimillion-dollar nuclear facility at Dawsonville. Built by the Air Force, it is operated by Lockheed Aircraft Corporation and is devoted to the study of radiation effects on systems for nuclear propulsion of aircraft and space vehicles.

Specialized research in the forest product field is available from the famous Herty Laboratory in Savannah. It was here that the process for producing newsprint (paper for newspapers) from Southern pine trees was developed.

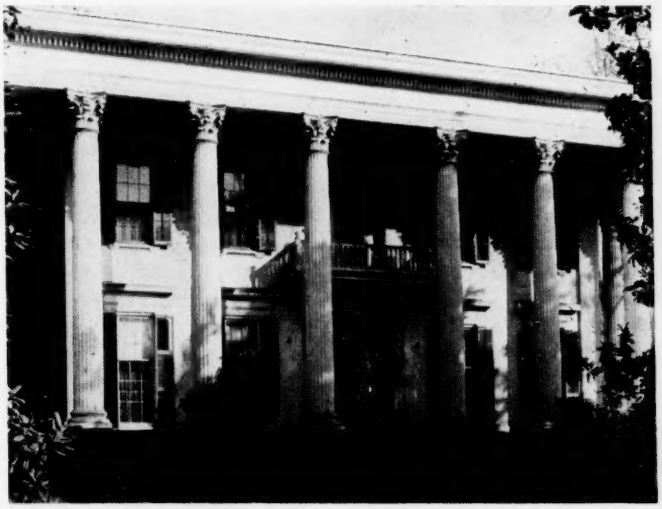
Altogether, there are more than 50 scientific organizations in Georgia that are available for specialized research assignments.

Industrial firms and agencies of the Federal Government put up the major portion of funds going into research studies in the state, but good support also comes from such sources as state appropriations, local communities and private individuals.

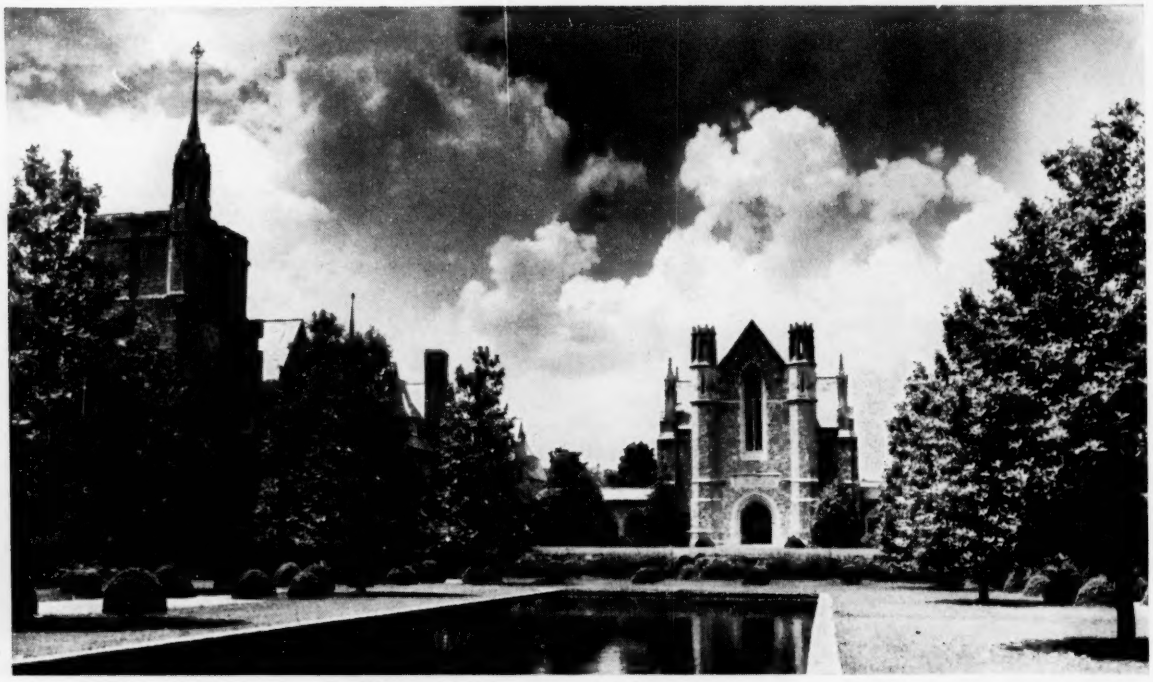
The Engineering and Experiment Station at the Georgia Institute of Technology, Atlanta, comprises the largest engineering and scientific university research agency in the South. Its current rate of expenditure is $3.5 million a year. Shown is Tech's Hinman Research Building.



Georgia has 1,945 public schools which in 1960 had a total enrollment of approximately a million pupils, and the state this year is spending more than $176.7 million for public education. Typical of the modern school buildings in the state is the Albany High School shown here, which cost $2.5 million.



The University of Georgia at Athens has the distinction of being the first state university in the nation. It was chartered in 1785 and officially opened in 1801. This is the home of the president of the University, which was built in 1855 and is a fine example of ante-bellum architecture still to be found in many parts of Georgia.



The Berry Schools near Rome constitute one of the most attractive educational institutions to be found anywhere. Founded by the late Miss Martha Berry, the schools give an opportunity for students who otherwise would be unable financially to get higher formal education. This is the Ford Quadrangle of the Girls' School.

## Amenities for Good Living

Along with its great public school system and the outstanding colleges and universities, Georgia has a tradition of culture that goes back to colonial days.

Such organizations as the Atlanta Symphony Orchestra are widely known, and cities and communities throughout the state maintain an active interest in music and theater groups.

Georgia is a state of church goers. An estimated 78 per cent of the state's population belongs to churches representing virtually every faith.

In the field of communications, Georgia has 31 daily newspapers with a total circulation of more than 826,379 plus 205 weekly newspapers with a combined circulation in excess of 340,000.

Most communities, large and small, have their own radio stations, and all the principal cities have one or more television stations which, with stations in neighboring states, provide TV coverage virtually anywhere in Georgia.

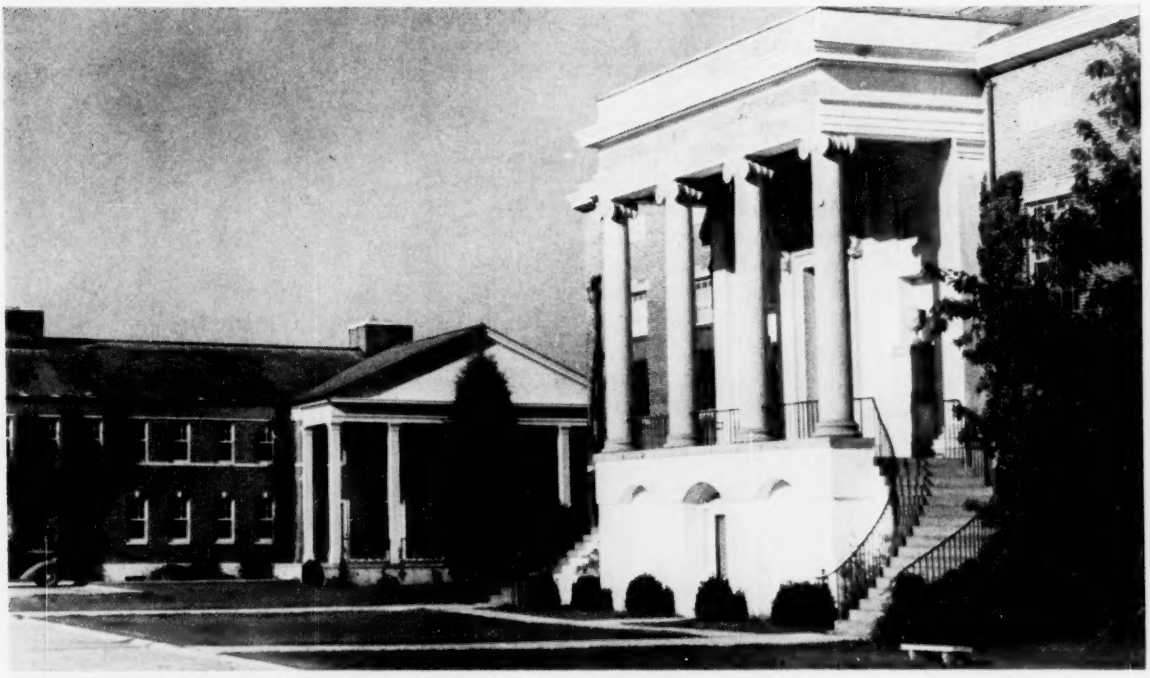
Southern Bell and 64 independent telephone companies serve the state with more than 1.133 million telephones. Southern Bell alone serves over 41 per cent of Georgia's geographic area with nearly a million phones.

The result is that the modern transmission network maintained throughout the state provides immediate communication with your customers and suppliers for industrial facilities located anywhere in Georgia.

An important amenity, too, is the climate. Mild the year around in most areas of Georgia, the climate is a major attraction for industry, as it allows for lower construction and maintenance costs, economies in fuel and similar requirements, as well as pleasant working and living conditions. Work stoppages because of the weather are virtually unknown.

The good living conditions have helped to make Georgia a state of homeowners, and in virtually all areas of the state new housing construction has been maintained at a pace to provide ample dwelling space. The state's housing requirements have been and are being met by private builders, supplemented to a lesser degree by Federal projects.

You will find, too, that Georgia communities offer fine facilities for maintaining the health of its citizens and providing for care of the ill. There are, for example, 3,252 physicians, or one for every



Wesleyan College at Macon, with its famous Conservatory of Fine Arts, is among the nation's leading colleges for women. Founded in 1836, it was the first college in the world chartered to grant degrees to women, and its present enrollment represents virtually every state in the Union. Shown are two of the Wesleyan buildings and a portion of the campus.

In 1947 a comprehensive hospital construction program was launched in Georgia, and since that time some 106 hospitals and additions have been approved, placed under construction or completed. An example of the fine infirmaries to be found in the state is this Americus and Sumter County Hospital.

1,187 persons.

A comprehensive hospital construction program was launched in 1947, and since that time some 106 hospitals and additions have been approved, placed under construction or completed. The total cost involved is more than $85.8 million, adding 5,302 hospital beds.

At the same time, 135 related health facilities including health and rehabilitation centers, diagnostic and treatment centers, nurse training facilities, chronic hospitals and nursing homes have been built. These represent a cost in excess of $25.6 million.

Supplementing activities at the county and community level, the State Health Department operates an efficient consulting industrial hygiene program.

## The Money for Growth

One thing you will notice in visiting Georgia communities is that the state has plenty of banks.

The Federal Deposit Insurance Corporation reported that as of December 31, 1959, the state had a total of 413 banks, including state and national banks. Of that figure, only 12 are noninsured banks of deposit.

F.D.I.C. noted further that these banks had deposits totaling slightly less than $2.835 billion, while total liabilities and capital accounts amounted to approximately $3.135 billion. The money on deposit included $1.503 billion in demand deposits and $683.5 million in time deposits.

It is noteworthy that Georgia is the only state in the Southeast which has two of the 100 largest banks in the United States.

Of particular interest to the prospective plant builder, too, is that the state's banking system is in a position to meet the great bulk of the credit needs of industry. Through correspondent bank participation, for instance, borrowing needs of even the largest firms can be handled, as several banks have loan limits in excess of $1 million each.

Further, the larger banks have industrial development departments which provide technical assistance for industry as well as banking services for industry and workers in industry.

To help in financing home construction, Georgia has 90 savings and loan associations. These groups account for almost half of all non-farm mortgage loans on home properties in the state and have created a pool of over $875 million that has been invested in home mortgage financing in Georgia.

## "Pay as You Go" Government

The State of Georgia Government maintains financial stability through operating on a "pay as you go" basis. For example, big capital expenditures such as school and hospital construction are undertaken through state-created authorities. These agencies issue revenue bonds to finance construction and then lease facilities to the state.

This means, for one thing, that existing and incoming corporations are not saddled with heavy bonded indebtedness. Further, since the sales-use tax and motor fuel tax produce more than 63 per cent of total revenue, corporations do not have to assume an unreasonable tax burden.

Georgia governors are elected for a term of four years, and a governor cannot succeed himself. The General Assembly is made up of 54 senators and 205 representatives. These are elected for a term of two years, and the legislature meets each January for a session of 40 days.

For electing its legislators Georgia has what is known as the "County-Unit System." The way this works out is that the eight most populous counties have three representatives each in the House, the next 30 counties have two each, and the remaining 121 counties have one representative each.

## The Historic Background

While progressive Georgians are looking ahead rather than dwelling in the past, the state's colorful history and the development of a rich culture serve as the background for things to come.

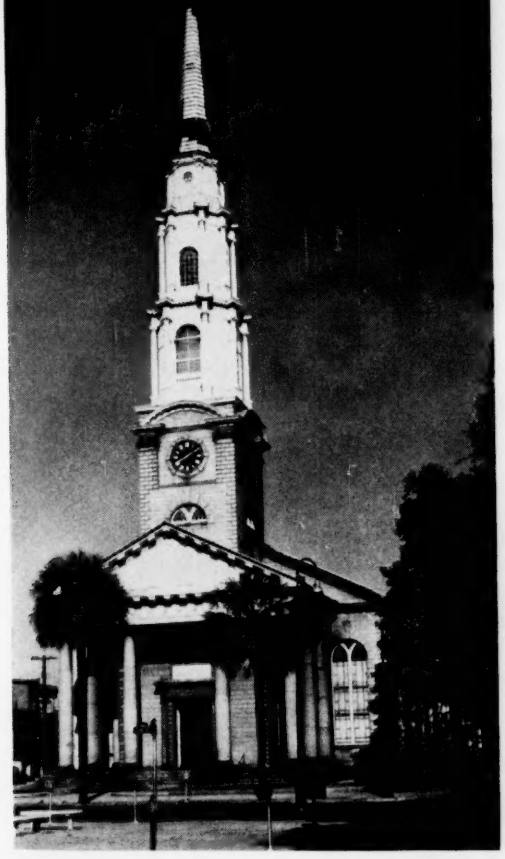
Back in 1540 Hernando DeSoto crossed the area on his way from Florida to the Mississippi River, and he is believed to be the first white man to visit what was later to be the Georgia Territory.

A few years later French explorers came into the area and set up forts in what is now South Carolina, and then the Spaniards moved in to claim the land for Spain.

In 1629, however, the territory was claimed by England as part of an original Carolina grant made by King Charles I, and in 1721 the English built a fort on the Altamaha River to discourage forays by gold-hunting Spaniards from Florida.

Perhaps the most significant phase of Georgia's history began when general James Oglethorpe landed at the mouth of the Savannah River on February 12, 1733, and set about laying out what was to become the City of Savannah. Two years later he sailed up the river to the head of navigation and founded the City of Augusta.

Georgia became a flourishing, largely agricul-



From Colonial Days Georgians have been churchgoers, and today you can find a church of your choice in virtually any community. This beautiful building is the Independent Presbyterian Church at Savannah. The congregation was formed in 1755, and the original church was built in 1815-19. The present structure was erected in 1889-90. The late President Woodrow Wilson was married here to Ellen Axson of Rome.

Another of the numerous ante-bellum homes in Georgia that still give a flavor of the Old South is the Gabe Toombs House at Washington. In Wilkes County, Washington is one of the state's oldest communities and is the only one that was not captured by the British during the Revolutionary War.

A mecca for historians and sight-seers is the unique Cyclorama at Grant Park in Atlanta. Portraying the War Between the States Battle of Atlanta, the Cyclorama is a continuous mural in a circular room. In the foreground, all the way around, are three-dimensional figures and objects which blend imperceptibly into the background painting.

tural commonwealth and, along with the other colonies, began to feel the desire for independence. While there were no Georgia delegates at the First Continental Congress, the state did send delegates to later congresses. It signed the Declaration of Independence in 1776 and ratified the Articles of Confederation in 1778. That same year the war moved southward, and by the end of 1779 all of Georgia except Wilkes County was under British control.

Freedom came, of course, with the departure of the British, and in 1788 Georgia was the first of the Southern states and the fourth of all the new states to ratify the Federal Constitution.

Georgia in 1802 sold to the Federal Government all its land west of the Chattahoochee for $1.25 million, land that is now Alabama and Mississippi. Despite fights with Indians, which continued until the Creeks were moved out in 1832 and the Cherokees in 1838, Georgia's economy flourished, and it was a center of affluence and gracious living by the time that the War Between the States broke out.

Georgia's own Alexander H. Stephens fought against secession, but he remained loyal when the vote to secede was passed in 1861, and in that same year became vice president of the Confederacy.

Following the war, during which Georgia lost more than $100 million in property, the state along with the rest of the South was subjected to the hardships of Reconstruction. All this it managed to take in stride, and by the end of the century Georgia was well on its way into a new era of commercial and industrial redevelopment.

During World Wars I and II Georgia demonstrated its ability to produce, and in the space age of today it is prepared and determined to take a leading role in economic growth.

## Varied Facilities for Leisure and Fun

Georgia's location geographically is not only strategic in relation to markets and as the crossroads of the Southeast but also in that there are few states in the nation which can offer as great a variety of vacation and recreational facilities.

Since Georgia is about 300 miles long from north to south border, as the jets fly, and extends from the mountains to the sea, the range of climate is such that the state has both summer and winter resorts.

The 36 state parks in Georgia are well distributed, making one or more of them almost within immediate reach and the most distant one less than a day's drive away.

Georgia also is a state of many lakes, and currently there are more than 325,000 acres of such lakes offering extensive recreational facilities. More will be available when the dam projects we mentioned earlier in this report are completed.

In addition to fishing, the lakes provide excellent boating facilities, so much so that boat building and sales have developed into a major business in the state. The Intercoastal Waterway, a favorite playground for yachters, and boaters down to the smallest, passes through Georgia's Golden Isles which are longtime popular vacation spots.

Among the fine sporting fish found in the state's lakes and streams are fighting trout, bass, bream, crappie, muskellunge and perch. And, big game fishermen are usually able to find tarpon and sailfish during season in many of the sounds along the coast between Savannah, St. Mary's, and the Golden Isles.

Georgia's forests provide good hunting for such game as deer, turkey and quail, and perhaps even a wild boar.

In this connection the State Game and Fish Department itself runs deer and turkey hunts in its game management areas during the fall and spring. Nine good deer areas are opened for controlled hunting during fall months, while each spring several of the areas are opened for wild turkey season.

Noteworthy is the fact that a Georgia vacation can be enjoyed on a very modest budget. Apartments and cottages can be rented in beach areas for as little as $60 a week in the summer season, and the rates at seashore inns and hotels average around $8 a day double, European plan. There are also beautiful areas with magnificent hotels and cottages catering to the most discriminating tastes.

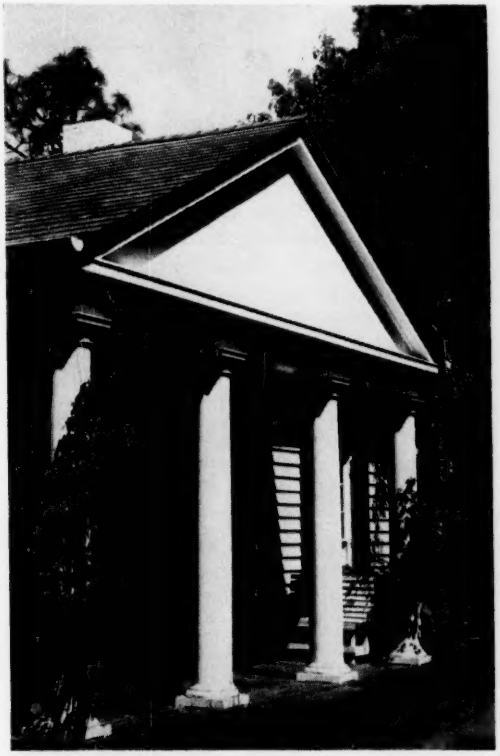
In the always cool mountain areas of north Georgia, cottages for two can be had for from $25 to $35 a week, while room and meals for two at most mountain lodges and hotels range from $50 to $70 a week.

This indicates that anytime of year you can always find in Georgia a pleasant place in which to relax and enjoy recreation whether it be just for a weekend or for a month or longer. The Tourist Division of the Georgia Department of Commerce, 100 State Capitol, Atlanta 3, will furnish vacation information on request.

## Help From Development Corporations

This backdrop of plus factors we have cited

Jekyll Island is a beach resort which, like the other coastal areas of Georgia, can be enjoyed the year around. Owned by the state and administered by the Jekyll Island State Park Authority, the big island has beautiful home sites and many hotels and motels. Major highways converge at Brunswick near Jekyll, and the island also can be reached easily by air, rail and boat.



The Little White House at Warm Springs is one of the nation's outstanding shrines. Built by the late President Franklin D. Roosevelt, who first visited Warm Springs in 1924, the house was his part-time home in Georgia, and he was here when he died. The building and its contents have been retained substantially as it was when Mr. Roosevelt lived there.

Stone Mountain, now a Georgia State Park, is the largest exposed granite dome in North America. The monolith rises 686 feet above the plain on which it stands and has a circumference of seven miles. Plans have been implemented for a heroic memorial to the Southern Confederacy to be completed at the mountain by the Stone Mountain Memorial Association.

here is further enhanced by the eagerness of Georgia communities to give all possible aid to the prospective plant builder.

Besides the financial assistance available from the state's strong banking system, there are some 141 individual communities in Georgia which have set up industrial development organizations. These agencies cooperate partially or completely in financing at the local level new construction for responsible, well-rated industrial companies.

Generally, these corporations will erect a building to the specifications of the tenant and lease it on a long-term basis, or arrange for a lease-purchase agreement.

In addition to the fact that such arrangements assure goodwill of the community because of local participation, the lessee has tax advantages through rental deductions rather than through capital depreciation. Another advantage is that expansion is provided for with a minimum capital outlay for plant facilities.

Other sources of first mortgage financing include insurance companies, pension funds and profit sharing funds.

These 141 communities with development corporations have sites available of interest to various types of industrial prospects, and many of the state's towns and cities have acquired or have options on attractive sites which are particularly convenient to good labor supply, transportation, power and fuel.

Several cities also provide planned industrial districts.

## Moultrie — A Case History

To give you an example of the kind of progressive planning that you may expect to find in many Georgia communities, I.D. visited the alert town of Moultrie which is in Colquitt County in southwest Georgia. Outstanding among the constructive moves was the establishment of the Moultrie-Colquitt County Industrial Development Park.

As explained by Max Nussbaum, Moultrie publisher and civic leader, the present tract of 435 acres was decided upon late in 1958 after a survey was made, with the help of professional industrial location experts, of all available property in and near the city.

Mr. Nussbaum said that 277 citizens of the city and county contributed a total of $110,000 for the purchase and development of the property.

"Under an agreement with the former owner," Mr. Nussbaum added, "he is allowed to farm the land until it is needed by the development corporation. This makes the land more attractive looking and at the same time protects the beautiful 20-acre lake on the property."

The Development corporation is empowered to build buildings on the property and lease them to industry and is also empowered to give land to industry for its own development.

Moultrie Chamber Manager Truett Lomax pointed out that the entire acreage is zoned for industry and is adjacent to the city limits. Electricity, gas and water facilities are on the property, and fire protection is provided by the city and police protection by the city and county.

Further, there is an adequate disposal plant on the property with 660,000 gallons daily capacity.

Both the Atlantic Coast Line and Georgia and Florida Railroads have lines running through the park, while paved roads run into it and alongside.

The first company to choose a site in the park was Bridgeport Brass Company which is now operating a Plumbing Division plant there. The Development Corporation gave Bridgeport 20 acres of land as a site for the plant and to provide for future expansion.

Concerning the Moultrie location, John H. Pimm, manager of the plant, observes: "Our corporation's experience to date has indicated that adaptability of labor to our types of mechanical operations has been excellent, and local officials have gone far beyond the call of duty in helping us work out our problems."

## State-Wide Development Effort

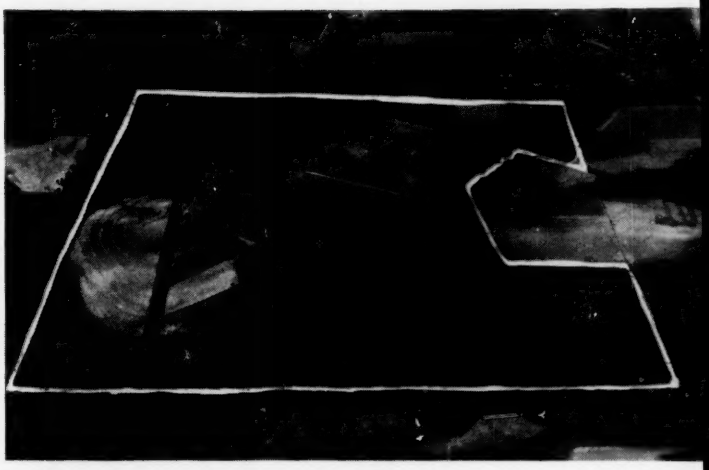
All this activity at the community level is backed up strongly by state-wide agencies and, in turn, has been of inestimable aid in helping Georgia to present an organized and effective program of aid to industry.

The state-supported agency which is well-

### AUDITED CITIES IN GEORGIA

The State of Georgia, as of August, 1960, had a total of 30 communities with certified audits on file in the International Community Audit Registry. This registry is maintained by INDUSTRIAL DEVELOPMENT as a free service to industrialists interested in a summary of pertinent facts about specific towns and cities. Georgia communities with audits on file are: Adairsville, Augusta, Cartersville, College Park, Cordele, Dahlonega, DeKalb County, Douglas, Ellijay, Fairburn, Fort Valley, Gainesville, Gibson, Glenwood, Griffin, Homerville, Jackson, Lafayette, Macon, Madison, Montezuma, Richland, Rome, Sandersville, Savannah, Statesboro, Thomasville, Valdosta, Warner Robins, Washington and Woodbine. Area surveys which have been conducted in Georgia by I. D., and which may be of help to you include studies on Thomasville, Rome and Floyd County, the Savannah area, Cobb County and Southwest Georgia.

Discussing plans for continued industrial expansion in Moultrie are (left to right) Truett Lomax, manager of the Moultrie Chamber of Commerce; Jack Minter, director of the Georgia Department of Commerce; Max Nussbaum, publisher and civic leader in Moultrie, and H. M. Conway, Jr., I. D. Editor.



Over the length and breadth of Georgia you will find many choice industrial sites and planned industrial parks. One of the newest of these planned areas is the Moultrie-Colquitt County Industrial Park at Moultrie in South Georgia. The park, outlined in the picture, has 435 acres zoned for industry. The first plant to locate there is that of Bridgeport Brass Company which is on a site of 20 acres.

The Okefenokee Swamp Park, known as the "land of trembling earth," is the largest preserved fresh-water swampland in the United States and covers an expanse of 700 square miles in South Georgia. A place of exotic beauty and mystery, it attracts a continuous stream of visitors and has been made even more famous as the home of comic strip character Pogo and his friends.

Hiking, camping, hunting or just plain sight-seeing fun are provided by the mountains of Georgia. The mountains are part of the great Applachian chain which extends almost the entire length of the Eastern Seaboard. This picturesque old barn is nestled in a valley in what is known as the "Little Switzerland" area near Hiawassee.

These are the capable men in the Georgia Department of Commerce who are well-equipped to give you expert aid in site selection and expansion planning. They are (left to right) John Felton, manager of the Industrial Division; Hoyle Yandle, manager of the Field Service Division; Jack Minter, director of the Department; and Vincent Jones, assistant director.

Georgia's aggressive young Governor S. Ernest Vandiver is wholeheartedly behind the state's industrial development program and has been a leader in state-wide moves to enhance further the business climate of Georgia.

staffed to give you full information about what Georgia has to offer is the Georgia Department of Commerce of which Jack Minter is director.

"We are fully equipped," Mr. Minter said, "to answer all inquiries about plant location possibilities in Georgia and will do everything in our power to help personally any industrialist who may be interested in Georgia sites. We certainly invite all inquiries."

The assistant director of the Department is Vincent Jones who previously was manager of the Industrial Division and still works closely with industrial development promotion.

Present manager of the Industrial Division is John Felton, while Hoyle Yandle is manager of the Field Service Division. All these men are prepared to render expert aid in your site selection and plant location activities.

Offices of the Department are located in the handsome State Capitol which has recently been made even more of a landmark in Atlanta as a result of its huge dome being plated with gold, the precious metal for this project having been mined from a north Georgia area that was made famous in Gold Rush days.

This glittering dome is visible from many points on the ground and is always an eye-catcher to air travelers coming to the city, particularly on sunny days.

In connection with attracting industry to Georgia, Governor Vandiver has provided strong support to activities at both the state and community level and has been aggressive in his leadership to expand and improve state services.

Asserting that Georgia has "all the advantages necessary to guarantee success to manufacturing companies of all kinds," the Governor also stressed that Georgia "is now the center of one of the fastest growing markets of the country."

He added: "Industry may choose from a ready pool of graduate scientists and engineers. Management has declared our tax structure fair and equitable. Our superb climate, plentiful water and power, and unlimited transportation are just a few of our rich blessings, and I personally invite industry to investigate the many advantages, which will assure profitable and pleasant operations, that Georgia has to offer."

The banks, railroads, utilities, and the Georgia Department of Commerce cooperate with the Department of Commerce and local chambers of commerce in offering you information about Georgia and site selection aid.

Altogether, I.D.'s annual Site Selection Handbook lists 299 various development groups active in Georgia.

The accompanying study of site selection and plant location factors in Georgia was conducted by the staff of INDUSTRIAL DEVELOPMENT under the auspices of the Georgia Department of Commerce. Reprints of this special report are available without charge upon request from Jack Minter, director of the Department, 100 State Capitol, Atlanta 3, Georgia.

At Michigan City, Indiana . . .

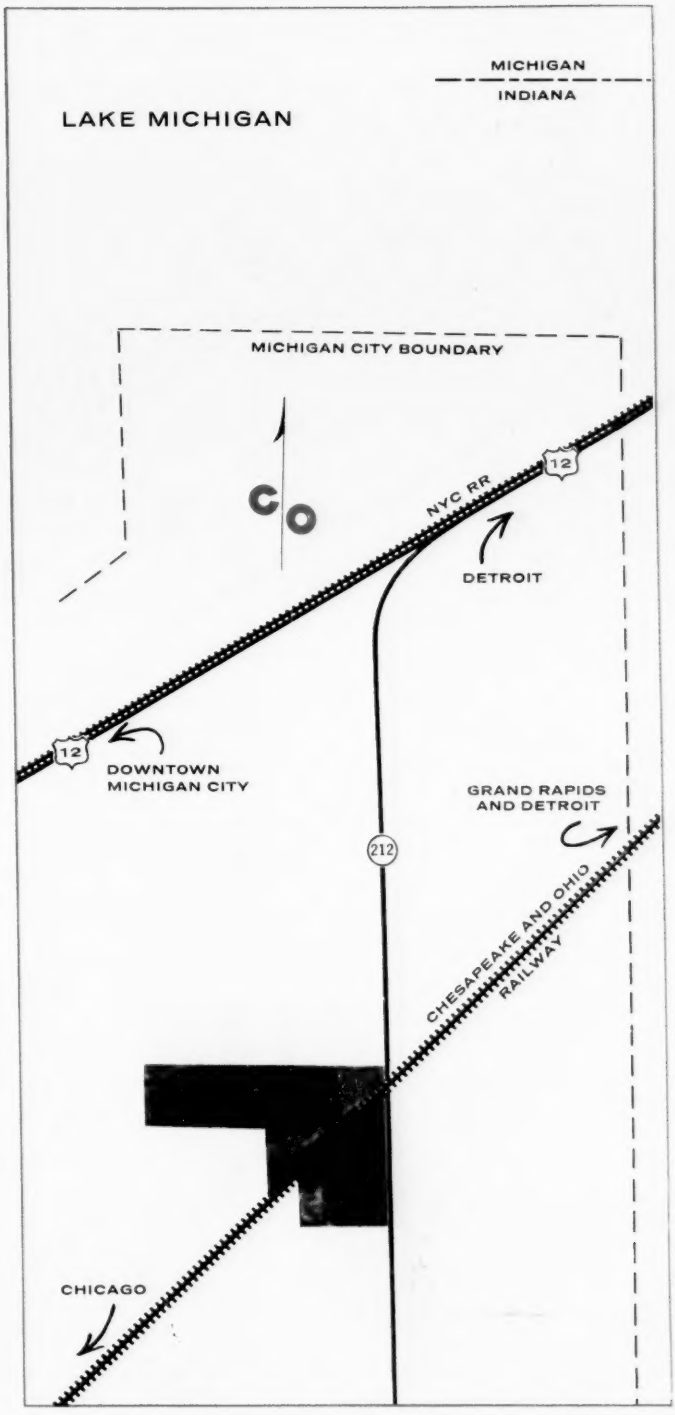
# C&O PROVIDES AN EXTRA DIMENSION IN SITE SELECTION

**C&O experts offer you confidential counsel on plant locations along The Chessie Route**

In searching for a new plant site, you need to evaluate its worth from every point of view . . . to avoid the danger of dealing in generalities.

When you call on the C&O Industrial Development Department you get an *extra dimension* in service which only a full-time staff of informed specialists can provide. Their intimate knowledge will take you beyond the surface facts of transportation, fuel, power, water, topography, resources and labor. They also supply underlying data on community facilities, local government, the profile of the people, the zoning regulations, tax factors and other vital conditions.

Given all the facts, simply, without gloss, the decision then rests with you. There are many attractive locations along C&O's 5,100-mile system serving the heart of industrial America. A few are listed on the other side of this page.




## ✻ OPPORTUNITY AT MICHIGAN CITY, IND.

**Fifty-eight miles from the Chicago Loop:** Two nearly level parcels of 43 acres and 22 acres on C&O's Chicago-Detroit-Buffalo main line. Industry zoned. Reciprocal switching with four other railroads. Both sites front on State Route 212, a 4-lane road linking U. S. Highways 12 and 20.

**Electricity** on site. Now in city: gas, water, sewer facilities available when needed. Power and gas from Northern Indiana Public Service Co. High-grade coal via C&O.

**Climate** tempered by Lake Michigan. An area of economic stability, with an exceptional labor pool.

**Chesapeake and Ohio Railway**

*Industrial Development Department*

*Huntington 1, West Virginia*

*Outstandability in Transportation*

# Partial list of available sites for industry

## Contact the C&O Industrial Development Department for full information on these and many more choice locations

**1—Newport News—Hampton, Va.** —In Copeland Industrial Park you will find any size site you want, offering economy and speed in construction because no grading is needed; all utilities installed. Power and gas by Virginia Electric and Power Co. On C&O Railway, and linked to Hampton Roads, one of America's busiest harbors. Excellent labor market.

**2—Erie, Michigan**—Pick your own site in 913-acre property, all level and well drained, adjoining C&O's Ottawa Yard. Ten miles from downtown Toledo, forty-seven miles from Detroit. Lies between U. S. Highways, 25 and 24. Electricity from Consumers Power Co.; in sight of new generating plant. Water from Lake Erie. Gas not now available. Access to exceptional labor sources.

**3—"Chemical Valley," West Virginia** —The 43-acre Lewis site, clear and level, thirteen miles from Charleston, the capital. On C&O main line and canalized Kanawha River; close to U. S. Highway 60. High-grade fuel from Middle Appalachian fields. All the water you can use. Utilities: Appalachian Power Company (AEP system); United Fuel Gas Co. (Columbia system); West Virginia Water Co. Ample labor. Other sites near by.

**4—Griffith, Indiana** — A residential community, but served by five railroads. Three contiguous properties, 153 acres, on C&O main line. Suited to complete production and marketing operations; thirty-three miles from Chicago loop. U. S. Highways 6, 30, 41 near by; six airports within fifteen miles. Water from Lake Michigan, or wells. Electricity and gas: Northern Indiana Public Service Co.

**5—Richmond, Virginia**—Choice level sites in the 200-acre Airport Industrial District, five miles from downtown Richmond. Adjacent to Byrd Field, city's airport. All utilities. Lead track to C&O's fast main line, Newport News to Chicago. District is already distribution center for Ford, GM, Allis-Chalmers. Electricity: Virginia Electric and Power Co.

**6—Marion, Indiana** — C&O invites location in level 369-acre property, zoned for heavy industry, with all utilities available. On main line, Chicago to Cincinnati; reciprocal switching with three other railroads. Close to State Route 18. Dana Corp. and General Motors plants near by. Utilities: Indiana & Michigan Electric Company (AEP system); Central Indiana Gas Co. (Consolidated affiliate).

**7—Logan, Ohio**—A forward looking city of 6,000 in the Hocking Valley, forty-nine miles southeast of Columbus. On C&O line and U. S. Highway 33. Affords several choice sites. Abundant fuel sources; water from Hocking River aquifers. Utilities: Ohio Power Co. (AEP system); The Ohio Fuel Gas Company (Columbia system). Large reservoir of skilled, semiskilled and unskilled labor.

**8—Muskegon, Michigan** — Two contiguous fine level properties, 30 and 70 acres, with highway advertising value. Between C&O and limited-access 4-lane U. S. Highway 31, eight miles south of this population center of 80,000. Interchange with U. S. Highway 31 near by. Electricity: Consumers Power Co. Water, sewage utilities must be provided. Zoned for heavy industry. Diversified labor force.

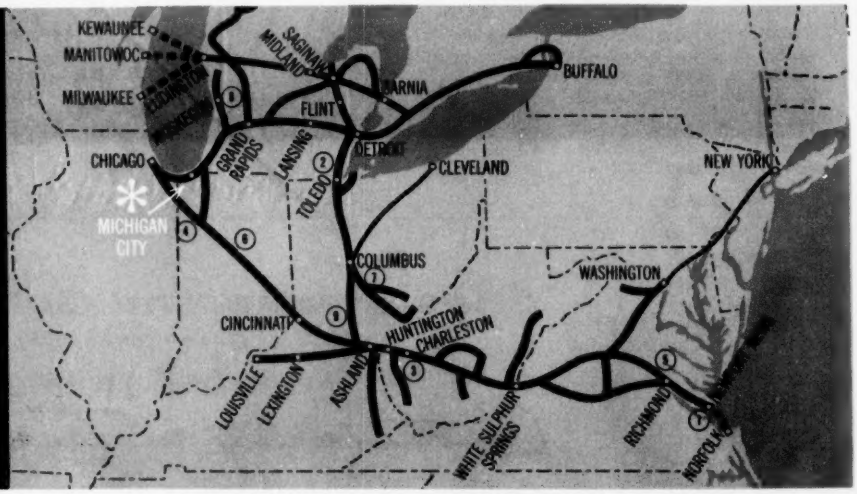
**9—Southern Ohio**—C&O offers site in 215-acre upland tract at Greggs in the valley of the ancient Teays River. Water from Scioto River aquifers. Utilities: Columbus and Southern Ohio Electric Co.; Pike Natural Gas Co. Piketon village will extend services. Twenty-eight miles north of industrial Portsmouth; near Atomic Energy plant. In area of labor surplus.

Complete industrial surveys of these and other sites along The Chessie Route are available to interested companies. Inquiries are handled in complete confidence and without obligation. Address: Wayne C. Fletcher, Director of Industrial Development, Chesapeake and Ohio Railway, Huntington, West Virginia. Telephone: JAckson 3-8573.

There's Opportunity for Industry all along The Chessie Route

C AND O

*Outstandability in Transportation*



PROGRESS REPORT:

# RAILROADS

**The knowledge of their areas accumulated through many years of operations and research makes the railroads an invaluable source of area and community information for firms investigating new site possibilities. And don't forget that many railroads have property bordering their tracks that is immediately available for industrial use.**

# RAILROADS ARE OLD

The railroads, which played an integral part in the nation's development, beginning more than a century and a quarter ago, today are better equipped than ever to help you in selecting a location for industrial or commercial facilities.

Further, these railroad systems — large and small — also have roadbeds, rolling stock, and over-all modern facilities which are now at a new peak efficiency.

During 1959 the railroads in the United States spent $818 million for new equipment and roadways and structures. That raised the total spent for improvements in the 1926-59 period to $24.4 billion! Since the end of World War II the railroads have invested more than $15 billion in various improvements.

The Association of American Railroads, which supplied these figures, estimates that as of last year total investment in road and equipment, including cash, materials and supplies, amounted to $35.8 billion.

An example of the rapidity with which the railroads have modernized may be seen in the fact that as recently as 1949 there were 28,964 steam locomotives in service, while that number had been reduced to 777 ten years later. Today, the lines operate a total of 29,452 locomotives, 28,098 of which are diesel-electric units, and 538 electric, the remainder being steam units. These locomotives and the passenger and freight cars they hauled, operated over trackage that totaled 383,000 miles.

To give you an idea of the industrial development programs being carried out by railroads, we will cite some specific examples.

The Texas and Pacific Railway Company, for instance, has a four point program for offering assistance to industry in locating plants in the Southwest. T&P's route extends from New Orleans to El Paso.

Harry W. Clark, director of industrial development for the line, explained that the program involved:

1. Personal contacts which the

With a little imagination, this map of railroads is also a map of wheat in Kansas and North Dakota, potatoes in Maine, coal in Kentucky, and lumber in the South and the Northwest. With a little more imagination, it is also a map of American industry, as the great bulk of American manufacturing is located on rail lines.

# HANDS AT DEVELOPMENT

railroad develops by using its mailing list of approximately 5,000 national firms. Inquiries in the form of personalized letters are sent inviting appointment with T&P personnel who will outline personally the advantages of a location in a community served by the railroad.

2. Personal assistance, through which T&P staff members work directly with chambers of commerce and local industrial committees.

3. Prospect development, which involves immediate follow-ups in response to interest shown by industries or by chambers of commerce.

4. Quarterly Memorandum, a publication issued by the line's Industrial Department, which contains items of interest about all matters related to industrial development in the service area.

The Great Northern puts stress on advertising its program. Says E. N. Duncan, director of the Industrial and Agricultural Development Department of the line: "With the help of every Great Northern employee from Boston to Los Angeles and from Vancouver to Atlanta, we are letting the world know that here is a great railway running through the heart of a resource-rich empire."

In addition to advertising in various media, the Great Northern has a publication called "Great Resources" which contains information about the research potential of the service area and which is mailed regularly to 23,000 leaders in industry, manufacturing and commerce.

Mr. Duncan stressed that his department is equipped to furnish full information about plant location factors in the area. He added: "Close personal relationships are maintained with federal, state, and local development bodies, as well as with utility firms" in order to keep up with prospects."

The Milwaukee Road has an Industrial and Real Estate Development Department which provides counseling service for community industrial development organizations throughout the territory and also lends assistance to those communi-

ties and to individual industrial organizations in promoting industrial development. The personnel of the department is well qualified to assist in planning and developing industrial areas.

Also, the Milwaukee Road's Traffic Department, through its off-line offices in all the major cities of the U.S. and Canada, provides personalized counsel for representatives of industries interested in locating in Milwaukee Road territory. The line, which operates in a 12-state territory with 10,590 miles of track extending from South Indiana to the Pacific Northwest, also makes extensive use of aerial photographs of potential industrial sites to help industry in selecting a location.

The Southern Railway System has been active in the industrial development field since the system began operations back in 1894, and is a consistent big advertiser in national media.

Assistant Vice President F. Clifton Toal is in charge of the Southern's Industrial and Agricultural Development program. In addition to his office in Washington, his department has branch offices in Atlanta, Birmingham, Charlotte and Louisville, and personnel in these offices are assisted in their activities by the Traffic Department's sales force with offices in most major cities in the country.

Mr. Toal explained that the Southern makes extensive use of site brochures with basic data; aerial photographs, and topographic and other maps. The brochure inventory is regularly revised and augmented, and special maps are distributed from time to time. Examples are maps showing location of principal water sites, certain mineral resources, and location, dimension and operation of natural gas pipelines in the railroad's territory.

A survey of the ground water resources in the Southern's area is being made by the line's full-time geologist and a consulting water engineer, and the geologist also does preliminary surveys, sampling and mapping of mineral resources in the area.

The Chicago & North Western says it "takes the guesswork from site selection," following seven basic principles which are to (a) furnish industrial prospects with quick and accurate information; (b) develop accurate and complete site information with an up-to-date file on the sites available, plus sending out site survey teams to seek locations for industry; (c) prepare factual data about the communities served by the C&NW; (e) acquire land for industries; (f) establish railway owned and controlled, planned industrial districts, and (g) maintain regular and frequent contacts with large industries throughout the country, and in particular with those individuals who are involved in plant location work for their firms.

The Seaboard Air Line in a move to aid further development acquired during 1959 several sites along its lines, which are well suited for industry. The purchases totaled 780 acres of land. The Seaboard's annual report pointed out that increasing interest in the acquisition of land for planned developments to attract industrial and commercial enterprises is being shown by communities and individuals in a number of areas served by the railroad.

Warren T. White is in charge of industrial development for the Seaboard. James B. Gregory is general industrial agent.

Along with special advertising and other means to bring Illinois Central Territory to the attention of plant building prospects, the Illinois Central makes extensive use of its monthly magazine to spotlight individual communities in the area and what they have to offer. The company also prepares special studies on the potential of various communities it serves.

Illinois Central President Wayne A. Johnston notes that since the end of World War II the line's industrial development department had helped locate 500 new plants in Mississippi alone and had aided in the expansion of 64 existing facilities.

In addition to the examples cited here, I. D. has carried special detailed reports on the industrial development activities of two railroads. These are on the Western Pacific in the February, 1960 issue, and the Rock Island in the August issue. Historically, railroads have had a longer period of interest in area and industrial development than any other single group.

Before the turn of the century many railroads had active and aggressive programs for attracting settlers to locate along their lines. When the flood of emigrants came over from Europe the rails advertised and had exhibitions on the Continent to portray opportunities to be found in various sections of the country served by their lines.

In recent years railroads have invested heavily in industrial parks and in industrial lands of various types to preserve choice sites for industry. In almost every community where a railroad offers service it will be found that the line will be happy to assist in getting a local development program started.

Here's what veteran George Cox, of the Santa Fe, says about the railroad's place in industrial development:

"Industrial plants are an extremely important source of freight revenue, which is the life blood of railroads. As prime movers of freight traffic, railroads not only have a definite place but also a vital interest in industrial development.

"In their early history, railroads maintained immigration and colonization department. These were the fore-runners of today's industrial development departments, whose job it is to attact industry with freight traffic for their railroads.

"With less than 6 per cent of the earth's area, the United States has over 29 per cent of its railroad mileage. It comprises 223,000 miles, exclusive of double track, sidings and yards. These railroads provide transportation at an average cost of 1½ cents per ton per mile, the lowest in the world. Low transportation cost, which encourages free movement of commerce, contributes greatly to our high standard of living.

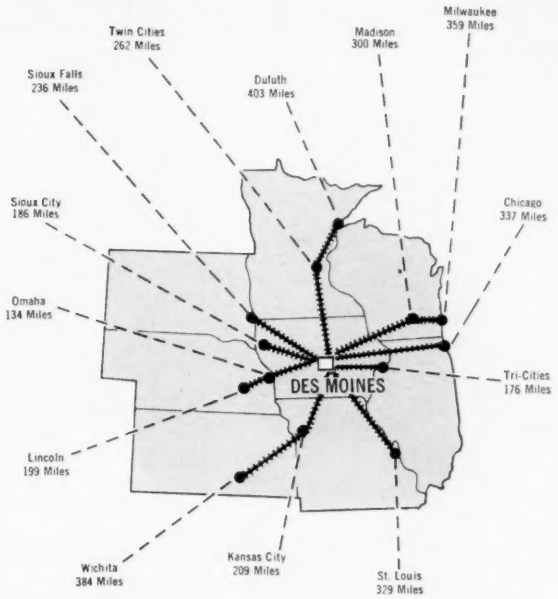
"Since the turn of the century, our economy has changed from one almost entirely dependent upon agriculture to one increasingly dependent upon industry. Over 70 per cent of American railroads' tonnage is still derived from products of agriculture, mines, forests, and livestock, but over 50 per cent of their revenue comes from transporting manufactured articles.

"While the yardstick used in industrial development work by rail-

# information about

# Des Moines

## for industrial site seekers




Des Moines is located in the center of the Upper Midwest market area... an area that has a population of 28½ million people who have a purchasing power of $52 billion. Its favorable geographic position is enhanced by exceptional transportation facilities serving the area. A community financing plan is available for plant construction.

Des Moines has one of the country's best public school systems as well as excellent cultural and recreational facilities.

The Rock Island has many choice industrial sites available in Des Moines and other Iowa cities. If the following information about Des Moines interests you, get in touch with us for more specific details. We'll work with you in strictest confidence.

**LABOR:** Skilled stable labor force of approximately 100,000 available in Polk County; increase in employment of 10,300 in 8 years; average education 11.4 years.

**POWER:** Two main electric generating plants with a capability of 360,000 KW per day; unlimited supply of natural gas; pipeline capacity of 72,300 bbl of fuel oil per hour.

**TRANSPORTATION:** The Rock Island and 9 other railroads; 40 interstate truck lines; 45 local truckers; 3 airlines with 83 in-and-out flights daily; 4 bus lines.

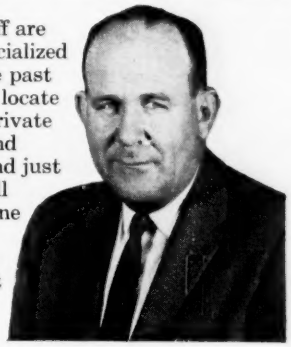
**HOUSING:** 16,533 new housing starts in nine years ('51-'59); four attractive residential suburbs within a six mile radius of downtown; average sale property value is $14,459; monthly rentals average $15 per room unfurnished; Des Moines is engaged in a very aggressive Urban Renewal Program involving a total of 662 acres.

**THE COMMUNITY:** 70 elementary and high schools with an average of 29.5 students per classroom; Drake University and Grand View College, as well as several commercial colleges giving complete courses in business training; 56 parks and community centers; 12 hospitals staffed by 443 doctors; annual budget of $17½ million for welfare; lovely art center; good community theater program; city auditorium which presents many fine entertainment and athletic events.

**COMMERCIAL SERVICES:** 51 classifications of industry with 361 manufacturers, 550 distributors and wholesalers; 19 contractors for new plant construction; exceptionally wide diversification of commercial activity.

**CLIMATE:** Average mean temperature is 49.8°; average monthly rainfall 2.64″ (31.68″ average annual rainfall).

The man who knows Des Moines industrial sites like the back of his hand is B. M. Schwartz, Rock Island's General Freight Agent.



Mr. Schwartz and his staff are typical of Rock Island specialized personnel who, during the past three years, have helped locate over a billion dollars of private industry along Rock Island tracks. He can help you find just the spot you need. For full details, write, wire or phone B. M. Schwartz, 5th and Vine, Des Moines, Iowa, or Industrial Department 155, Rock Island Lines, Chicago 5.

Rock Island

**ROCK ISLAND LINES**

*The railroad of planned progress ... geared to the nation's future*

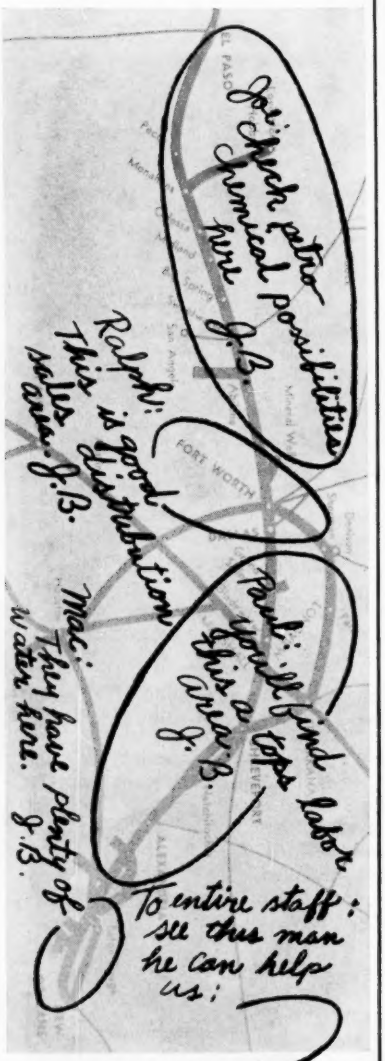
**ANY MFG. CO.**
Anywhere, U.S.A.

**MEMO**

To: Plant Location Committee

From: J.B.

Re: New Plants


Joe: Check extra chemical possibilities here. J.B.
Ralph: This is good distribution area. J.B.
Paul: You'll find cops labor in this area. J.B.
Mac: They have plenty of water here. J.B.
To entire staff: see this man he can help us:

Harry W. Clark
Director of Industrial Development
**TEXAS AND PACIFIC RAILWAY COMPANY**
401 Fidelity Union Tower
Dallas 1, Texas
RIverside 7-7511

roads differs from that of associations or chambers of commerce and utility companies, a new industry that affects one directly will affect the others either directly or indirectly. All work in industrial development for the purpose of building their particular communities or revenues — whether it be measured in additional payrolls, kilowatt hours, cubic feet of gas or freight tonnage.

"Railroads are equipped to provide studies of available industrial properties adjacent their rails whether they be privately owned or owned by the railroad company. These studies include ownership, size of parcels, prices (where available), also proximity to rail lines, highways, access roads, utilities, and waterways if any.

"For many industries, rate studies are necessary and these are provided both on raw materials inbound from specific or general origins to be a given location and finished products outbound to destinations either general or specific. Frequently, in the case of larger plants providing for new, heavy movement of raw materials inbound and/or finished products outbound, rate adjustments are necessitated. This service is also provided by the carriers.

"Often major industries, such as steel mills and automobile assembly plants, handling several hundred carloads of freight daily, require weeks of study by the engineering and operating forces of both the industry and the railroad to determine the best possible layout for plant tracks and supporting yards. Proper thought here is necessary to insure efficient service by the railroad with a minimum of delay to the industry.

"Through their advertising programs in newspapers, local and national magazines, as well as direct mailing of literature, also personal contact by executives, traffic representatives throughout the country, and other employees, railroads receive many leads on industrial prospects seeking plant locations. These may involve an entirely new plant, complete transfer of an existing plant, establishment of a branch plant or warehouse, or the location of satellite plants.

"The requirements of these prospects often determine their location. There are those who may require certain raw materials and must be located near the source of those materials. Others are primarily concerned about proximity of markets and their ability to meet competition. Other considerations are availablity of fuel, power, water, and transportation facilities, including rail, water, truck and air.

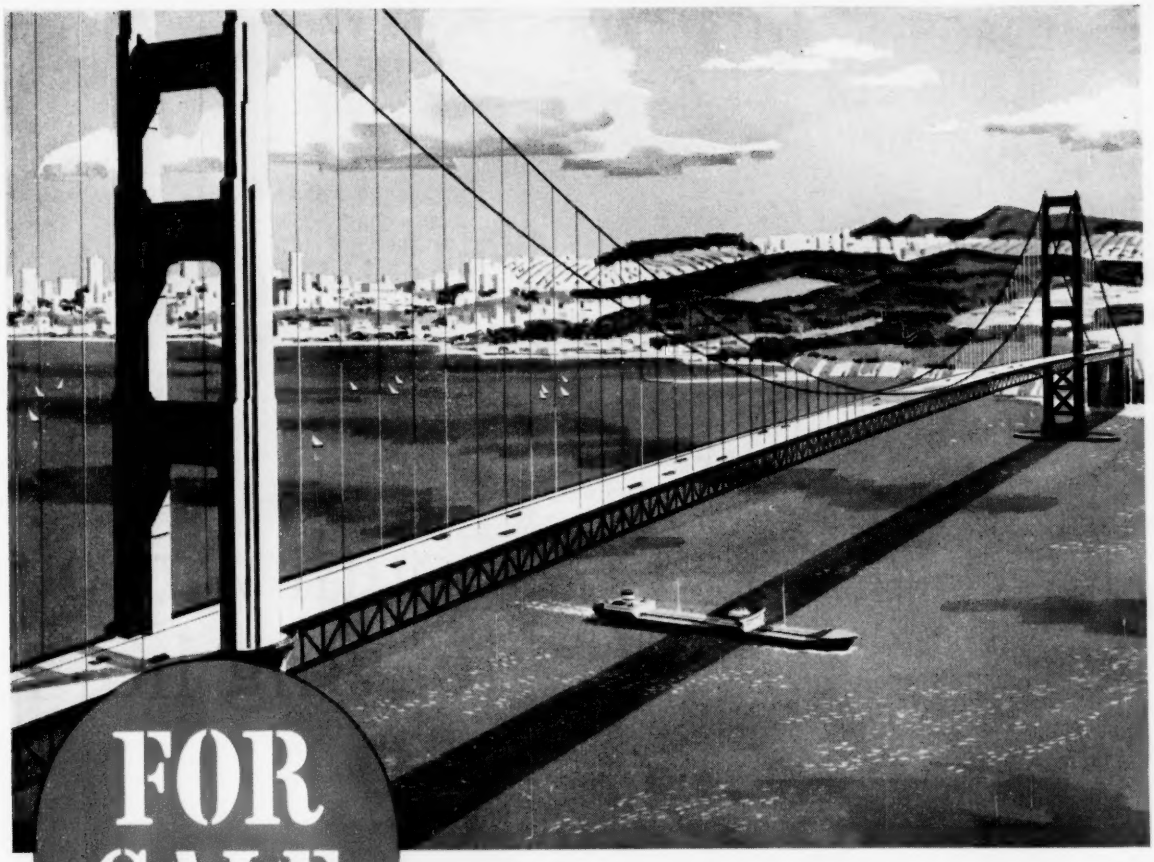
"Some prospects pinpoint their location by expressing a desire to locate in a specific community, while others are merely interested in a certain state or section of the country giving population range of the community in which they desire to locate.

"The railroads through their industrial departments can be a tremendous asset to the communities they serve by cooperating in pointing out advantages or offering suggestions to alleviate disadvantages. They can assist with zoning problems, pointing out the necessity for each community to provide sufficient area for industrial development. They also cooperate in preparation of brochures by furnishing sketches of available industrial sites complete with site data on locations adjacent their rails as well as information pertaining to their service both freight and passenger.

"Railroad representatives maintain close contacts with realtors, contractors and investors and can be of assistance to industrial prospects desiring turnkey construction jobs or building completed on rental or amortization basis by bringing prospect, investor and builder together.

"When requested by industry to work up site data on a given community, the industrial representative of the railroad will work very closely with that community in securing information the industry may desire. Leads furnished by chambers of commerce or others in a given community are treated with confidence and every effort is made to locate the industry in that community. The railroads have a large number of cities and towns located along their systems, and the confidence of each community must be respected.

"The railroads' place in industrial development is vital to industry, to the community, and to the ultimate prosperity of the railroads themselves."



# FOR SALE

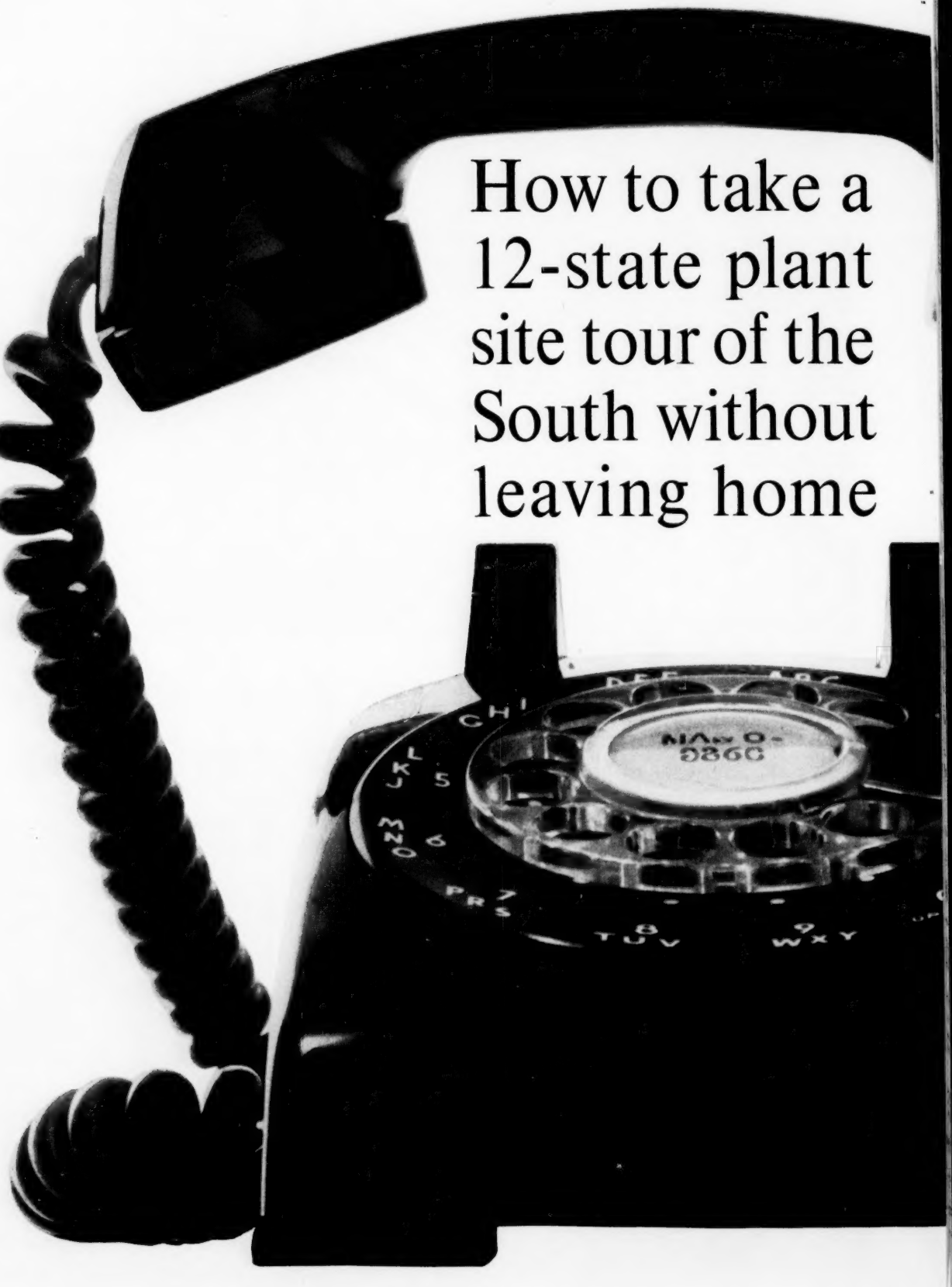
## 3481 acres of industrial property within 93 miles of the Golden Gate!

California is growing fast... *very* fast... but Western Pacific System still has a number of choice industrial sites for sale right in the San Francisco Bay Area and in other strategic locations on its lines in Northern and Central California. Further East, Western Pacific is offering industrial property in Reno (in the free port State of Nevada) and Salt Lake City.

For complete, *confidential* information (transportation, labor, power, housing, taxes, commercial services and other pertinent facts) get in touch with F. B. Stratton, Director, Industrial Development and Real Estate Department, Western Pacific Railroad, 526 Mission Street, San Francisco 5, California.

**WESTERN PACIFIC**

*Route of Fast Freights and the Vista-Dome California Zephyr*



# How to take a 12-state plant site tour of the South without leaving home

ALABAMA · FLORIDA · GEORGIA
ILLINOIS · INDIANA · KENTUCKY
LOUISIANA · MISSISSIPPI · NORTH
CAROLINA · SOUTH CAROLINA
TENNESSEE · VIRGINIA

---

THE MODERN SOUTH IS so big and diversified and has so much to offer that it could be a problem knowing where to begin a plant site investigation of this fast-growing region. But it needn't be!

Instead of jumping around haphazardly, call on our Industrial Development Department to help you. One of our trained industrial specialists can give you the facts and figures you are looking for, covering virtually the entire South. Confidentially, of course—and you won't even have to leave home for your preliminary screening.

Southern Railway's Industrial Development Department is one of the oldest in the business. It works closely with similar organizations in the South, both public and private, on state, regional and local levels. So, come to us—or we'll go to you. Either way, you'll immediately have working for you *one* comprehensive source of plant location information covering *12 states* in the South.

Call or write today. No obligation, of course. Let us help you . . . when you *"Look Ahead—Look South!"*

Harry A. DeButts
PRESIDENT

LOOK SOUTH LOOK AHEAD

SOUTHERN RAILWAY SYSTEM
WASHINGTON, D. C.

*The Southern Serves the South*

# RAILROADS SEEK NEW WAYS TO SERVE INDUSTRY

**Railroads are meeting their competition by a new concept of service. The conversion from steam locomotives to diesels and the upgrading of rolling stock, tracks and yards are only part of the story — they make a practice of working directly with existing and new industries to find ways of cutting transportation and handling costs. They intend to stay in business and they want their customers to do the same.**

*By Daniel P. Loomis*

Daniel P. Loomis, President of the Association of American Railroads, is a leading spokesman for railroads on the national scene. A Vermonter and a graduate of Union College in Schenectady and of Harvard Law School, he spent 14 years as an attorney for the Delaware and Hudson Railroad and 13 years as executive director of the Association of Western Railroads before assuming his present duties.

As many industrialists know, one of the best places to get full and reliable information on industrial plant sites anywhere in the nation is from the local railroads. All of the larger lines — and many smaller ones, as well — maintain industrial development departments which specialize in helping prospective industries locate in their territory.

The work of these departments goes far beyond the role of merely promoting the use of on-line real estate. Usually they offer the services of lawyers, engineers and real estate experts who not only help find the right spot for an industry's requirements but also offer competent advice on the myriad details involved in plant location. These departments work with local civic and commercial groups as well as directly with industry representatives.

Basically, railroad industrial development efforts involve two objectives — first, to gather data on what is available in the way of railroad and community sites and services and, second, to make this information known to interested industry. The thoroughness of railroad work along these lines has earned for them a reputation for accurate information and dependable servicing among industrial planners throughout the nation.

Bringing people and industry into new areas is, of course, not a new role for railroads. Almost since their beginning one and one-third centuries ago, they have been one of the most potent of all forces in settling and developing the nation. The driving of the Golden Spike at Promontory, Utah, in 1869 literally opened up inland America. From that time on, settlers and their families came to the midlands in ever-increasing numbers, safe in the knowledge that railroads formed a permanent link with the larger seaboard centers to the East and West.

First came the people and then the industry, both of which were ideally suited to a form of transport that can move anything, anywhere anytime, at the lowest cost of all.

The built-in economy of rail transportation is, of course, a prime consideration among industrialists seeking new sites for plant location. Presence of a rail line makes the surrounding area far more susceptible to industrial development.

The lengths to which railroads will go in order to bring in a new industry is indicated in this example from a medium-sized eastern line: The railroad's real estate and industrial development department got a tip that a certain industry was looking for 10 acres of land or a one-story building of 150,000 square feet

## SPECIALISTS ON *GROWING* PLANTS

In the South, it isn't magic, but the warm, favorable industrial climate that produces phenomenal growth.

Our Industrial Development Department is made up of specialists on *growing* plants. They've thoroughly researched the situation along the Dixie Line, and know intimately which areas are most favorable to various species of industry.

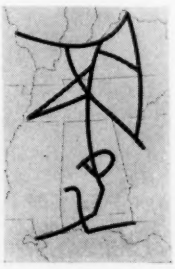
They know where tax blight is least prevalent . . . where growth nourishment—in the form of water, fuel and electrical energy—abounds . . . where to find the best markets for your "crops". . . and of course they *guarantee* efficient transportation to those markets.

L&N's industrial development specialists are delighted to supply—at a moment's notice—complete plant site information. In fact, they'll do all the spade work for your transplanting job and continue to lend a helping hand until you're well rooted.

*Success Lies South . . . along the* ***DIXIE LINE!***

CONTACT:
**R. E. BISHA**
DIRECTOR OF
INDUSTRIAL DEVELOPMENT
L & N RAILROAD, DEPT. C
908 W. BROADWAY
LOUISVILLE, KENTUCKY
PHONE: JUNIPER 7-1121, EXT. 318

**LOUISVILLE & NASHVILLE RAILROAD**
L&N
*The DIXIE LINE*



in its area. No such building was available, but the railroad came up with several vacant sites.

When none of these proved suitable, the railroad made air surveys over the area and found several more possible locations. Four of these proved to be zoned for residential use, but a fifth was of interest to the company. However, it was owned by a cementary association, and any sale would have required the approval of all association members who were located throughout the nation.

A further difficulty was the fact that an abandoned interurban right-of-way separated the site from the initiating railroad. Moreover, there was a lack of ample gas facilities and adequate transportation for the plant's employees.

Despite these many obstacles, the railroad persevered in its efforts, and eventually everything was resolved to suit the industry. A $2 million plant was constructed, bringing hundreds of new families to the area.

One of the backstage obstacles to this location, incidentally, was the community's zoning laws, which often operate to deter industrial development. Fortunately, however, community zoning and planning bodies realize more and more that industry is essential to a balanced local economy, and that barriers to industrial development must be lowered.

Usually after a new plant is brought into an area through railroad efforts, the railroad assumes a part of the responsibility for its success. That is to say, the home railroad will exert every effort within its power to see that the industry is able to compete successfully

One of the elements of modern planning that has worked against railroad efforts to attract new industry to a given locale is the frequency with which new highways are constructed adjacent to railroad tracks. This makes for a veritable no-man's-land between tracks and highway, resulting in the waste of valuable land which otherwise could be made available to industry. Many railroads have sought the cooperation of local planning commissions in preventing highways from being located within 1,000 feet of rail lines, so that this choice strip of commercial land can be used to its best advantage.

Railroads, of course, have geared their operations to help build up American industry in many ways other than promoting on-line plant location. In fact, the major part of the railroads' $15 billion postwar investment program was aimed at improving freight service for the nation's shippers. The lion's share of this massive private investment program was spent for replacement of steam locomotives with the more efficient diesel-electrics, and for replacing old freight cars with new. The extent of the diesel changeover can be glimpsed in the fact that by the end of World War II diesels accounted for less than 10 per cent of the total locomotive service, as compared with about 97 per cent today.

Another big segment of the railroad improvement program has been the streamlining of the freight car fleet. Nearly a million new freight cars have been installed since the war.

Still another major part of the railroad improvement program has been the construction of new freight yards and terminals, and the rebuilding of old. These facilities bring into play many of the newest — and most expensive — marvels of modern rail technology.

Not to be overlooked are automatic train control devices, modern communication systems, data processing installations and modern passenger equipment, not to mention improved track and track maintenance methods, all of which play an important role in the improved railroad service.

It has frequently been pointed out that without this venturesome outlay of private funds, railroads today would be in immeasurably worse financial condition than they presently are. This, of course, is due to the fiercely competitive nature of present-day transportation and to the fact that railroads do not receive the same treatment as their competitors at the hands of government.

For instance, while railroads build their own roads of steel rail and pay heavy taxes on them, their competitors use publicly built and maintained and tax-free roads and rivers and other facilities. Even where outright subsidies are not involved, other forms of transportation generally are not required to pay adequate fees for their commercial use of these public highways, airways and waterways. In addition, all railroad traffic is subjected to economic regulation by government, while less than a tenth of waterway traffic and about a third of intercity truck traffic is so controlled.

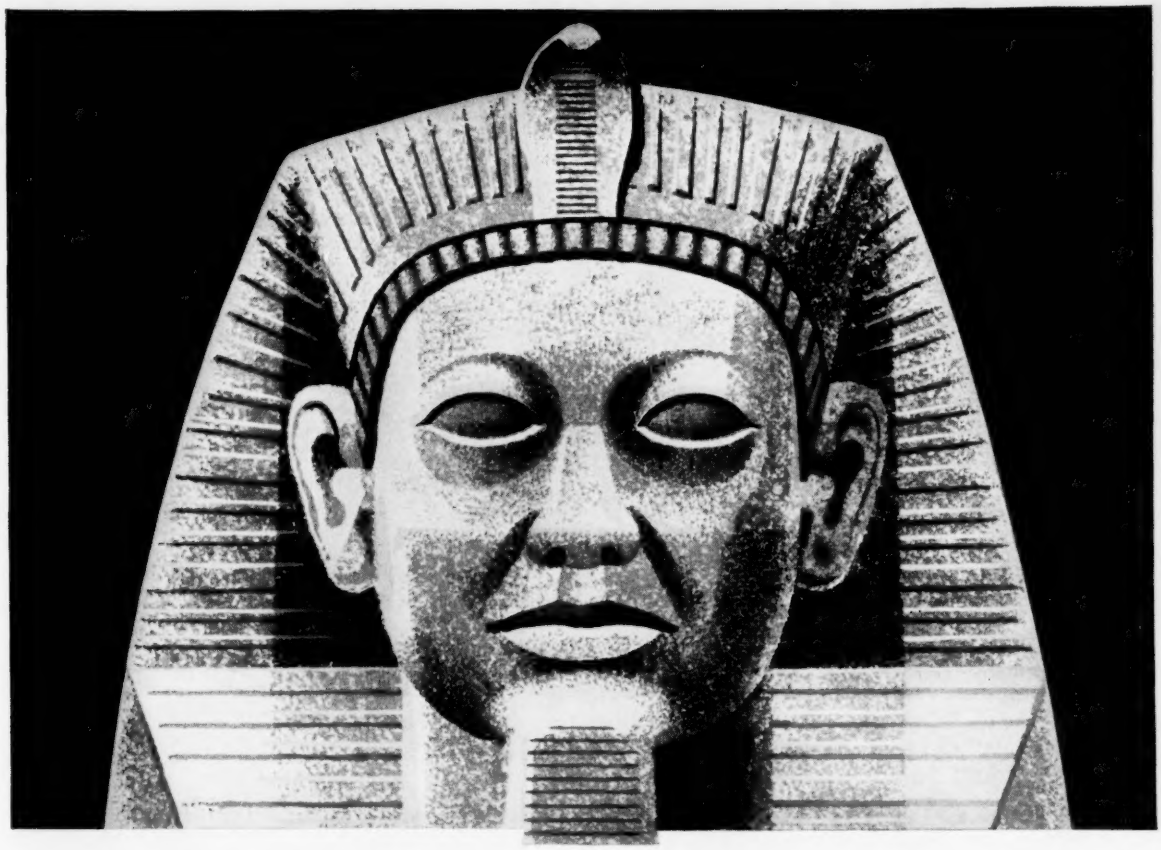
These are the foremost of many factors that put railroads behind an eight-ball when it comes to competing with other forms of transportation. As might be expected, however, railroads are not taking the present inequitable situation lying down. They are constantly striving for greater efficiency and economy in their own operations, at the same time they seek legislative and administrative action to put them on an equal footing with other carriers.

The end result of the railroads' drive for greater internal efficiency is, of course, better service for their customers — and, ultimately, for the public in general. The effectiveness of this drive is illustrated by the recent improvement in over-the-road speed of modern freight service. Many perishables, for instance, move from coast to coast on passenger-train schedules, as do many merchandise and "piggyback" cars.

Aside from improved operations, railroads have gone all-out to meet shipper demand for specialized freight cars and for making general-service equipment, such as box cars, readily adaptable to specialized uses.

One of the most recent developments has been experimentation with the chemical chilling of refrigerator carloads, which could supplement mechanical or ice-activated refrigeration. This development appears to hold great promise, for it could materially cut the cost of providing refrigerated service at a time when frozen articles are in increasing demand.

Another new development is the triple-decked automobile car, which has reduced the cost per unit for shippers of new automobiles. And, of course, the phenomenal growth of fast piggyback service, involving a considerable investment in specialized flat cars and loading facilities, has captured the interest of shippers everywhere.



# SUCCESSFUL PLANT SITE CHAIRMAN!

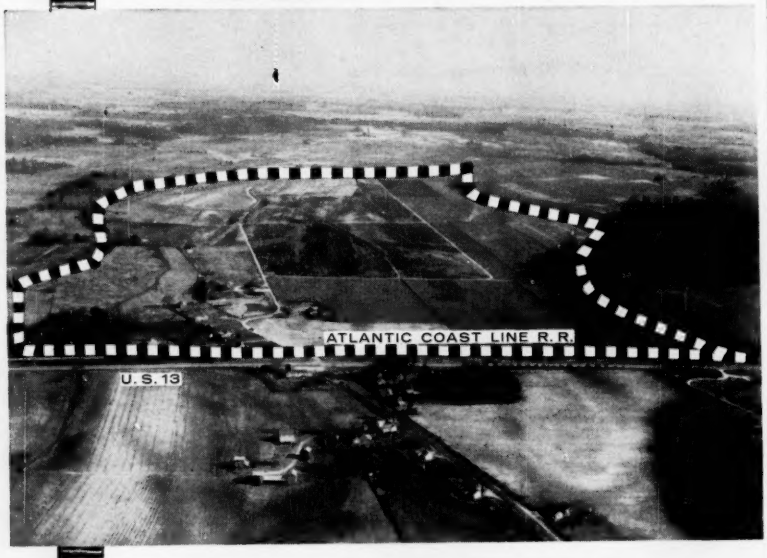
Cheops, Egyptian Pharaoh, was a bit of a stinker, but his organizational ability cannot be doubted. He decided to build a pyramid—the biggest. The site—Gizeh; materials—limestone locally quarried; labor force—100,000 men in three-month shifts. The market—himself.

The pyramid business has fallen off badly, but old Cheops' method of procedure still holds good. Deciding what is to be accomplished and orienting other factors to the efficient fulfillment of this need is logical. In plant site selection it is paramount.

When your industrial needs have been established, the Chicago and North Western Railway can be of the greatest assistance. With precise requirements in mind, experienced staff members match your specifications to the facts concerning locations. If the facts are lacking, we'll find the answers. Result: site recommendations keyed to your company's needs rather than a welter of "just-might-possibly-do" real estate parcels. This process saves effort, time, expense.

*Are you looking for a plant site? If so, submit your requirements to us. Inquiries held in Sphinx-like confidence. Address:* ***Gene F. Cermak, Industrial Development Department, Chicago and North Western Railway, 400 West Madison, Chicago, Illinois.***

# THE SOUTHEAST DOES LOOK GOOD!

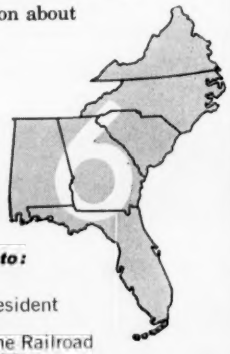



## And North Carolina offers a good spot for your plant!

Progressive North Carolina presents good access to the whole, rich southeastern market. And the Tar Heel State has the answers to your problems about room for industrial expansion, distribution and labor supply.

For instance, you'll find a ready-made location for your plant on this site just one mile north of Greenville's city limits. Here're 270 acres cleared for construction—good, level land in the Coastal Plain region. Here, too, are city and deep well water, electric power, immediate rail services from Coast Line, and road access from U.S. Highway 13.

Build in the growing Southeast where the market's as big as your welcome. For information about this site or other good locations, write, wire or call. All inquiries are held confidential.



. . . serving the Southeast Coastal 6

ATLANTIC COAST LINE RAILROAD

***Direct Inquiries to:***

R. P. JOBB
Assistant Vice-President
Department E-90
Atlantic Coast Line Railroad
Jacksonville, Florida


## RAILROADS

On another front, railroads are meeting the competition head-on with new rate schedules. Incentive volume combination and joint rates are among those tailored to meet modern transportation situations — with the public reaping the benefits. It is axiomatic in railroad thinking that the carrier with the lowest cost should be allowed to quote the lowest rates. And it hardly needs pointing out that the matter of freight rates is one of the first considerations of any industry seeking a new plant site.

Although the operational end of railroading provides countless examples of public service efforts, other aspects of the business also contribute toward this end. Railroads serve 50,000 communities over 219,000 miles of railway, and they strive to be good neighbors wherever they operate.

As employers, railroads rank among the biggest single industries in the nation. More than 800,000 people work on the railroads, drawing over $5 billion a year in compensation.

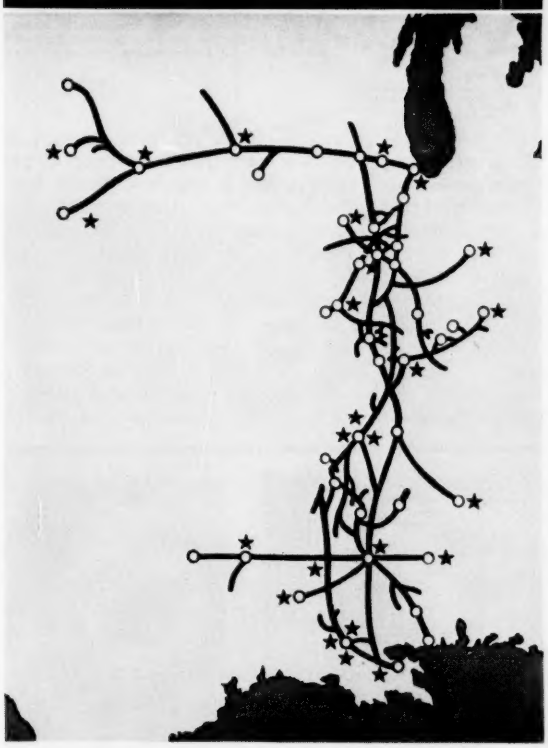
As purchasers, railroads are among the biggest outlets for other industries' production and sales efforts. Besides investing an average of $1 billion annually in new equipment and other capital facilities, they also spend up to $2 billion for fuel and other operating materials and supplies.

As taxpayers, railroads pay more than $1 billion a year in taxes to all units of government throughout the nation, helping support not only general public, police, fire protection, school and other services, but also even helping provide the public road, air, and water facilities used by their competitors.

And as the backbone of the nation's transportation network, the railroads both haul nearly half of all the intercity freight traffic and also bear the big traffic burdens in time of national emergency.

The fact is that every element of railroading has its aspect of public service. By the very nature of their business, railroads are constantly concerned with serving the public. Indeed, as the basic form of transportation which in turn is a basic form of industry, railroads are fundamental to the American way of life.

# *Want to know more about Mid-America?*



**Each star** on this map of Mid-America represents an industrial park or development. These are only a few of many locations worth learning about.

# Ask us!

We can make your preliminary investigation easier. Just phone for basic facts about locations suited to your particular needs. Your inquiry will be held in strictest confidence, and we will put in your hands facts that you want—information about labor supply and costs, raw materials, water, power, gas, coal, oil supplies, taxes, civic climate, availability of processed materials from other plants.

Telephone Chicago WAbash 2-4811

J. S. FROST
*Director of Industrial Development*
135 East Eleventh Place • Chicago 5, Ill.

## ILLINOIS CENTRAL RAILROAD

*Main Line of Mid-America*

# A. R. D. A. — ORGANIZED FOR ACTION

**The American Railway Development Association brings together more than 200 specialists in area and industrial development, who are constantly improving the quality and comprehensiveness of site selection services available to industry.**

John W. Ewalt, current President of the American Railway Development Association, is Assistant to the Vice President in charge of Real Estate for the Pennsylvania Railroad. His office is in Pennsylvania Station in New York

*By J. W. Ewalt*

The American Railway Development Association was formed at its first "Annual Meeting" held in Chicago in 1906. Since that time, except for war years, it has continued to meet, and next Spring in Philadelphia it will be holding its 52nd Annual Meeting.

Membership in the Association now numbers 235 and is limited to any official representative of any common carrier railroad in North America, of whatever title, engaged in industrial, real estate, agricultural, land settlement, forestry or similar development activity. Membership is also available to offical representatives of the Association of American Railroads and regional associations of railroads, whose responsibilities and activities in the general railroad field parallel or supplement development work of individual lines.

The objectives of the Association are to foster the industrial, agricultural, land settlement, real estate, forestry and other similar development activities of North American Railroads.

The proceedings of each annual meeting are printed and a copy forwarded to each member.

A.R.D.A. is not sponsored by any one railroad or group of railroads. While consideration has been given several times to its becoming a part of the American Association of Railroads, it has elected to retain its identity as a self-sustaining organization.

The Industrial Section consists of men primarily interested in locating new industries on their railroad to produce new freight revenue. A related group is the Real Estate Section — the men who handle purchases, sale or lease of railroad owned or controlled properties. Naturally the sections have problems which are interrelated and for that reason two or three of the sections will meet jointly for an open discussion of the mutual problem.

In addition to the annual meeting, where mutual problems are discussed

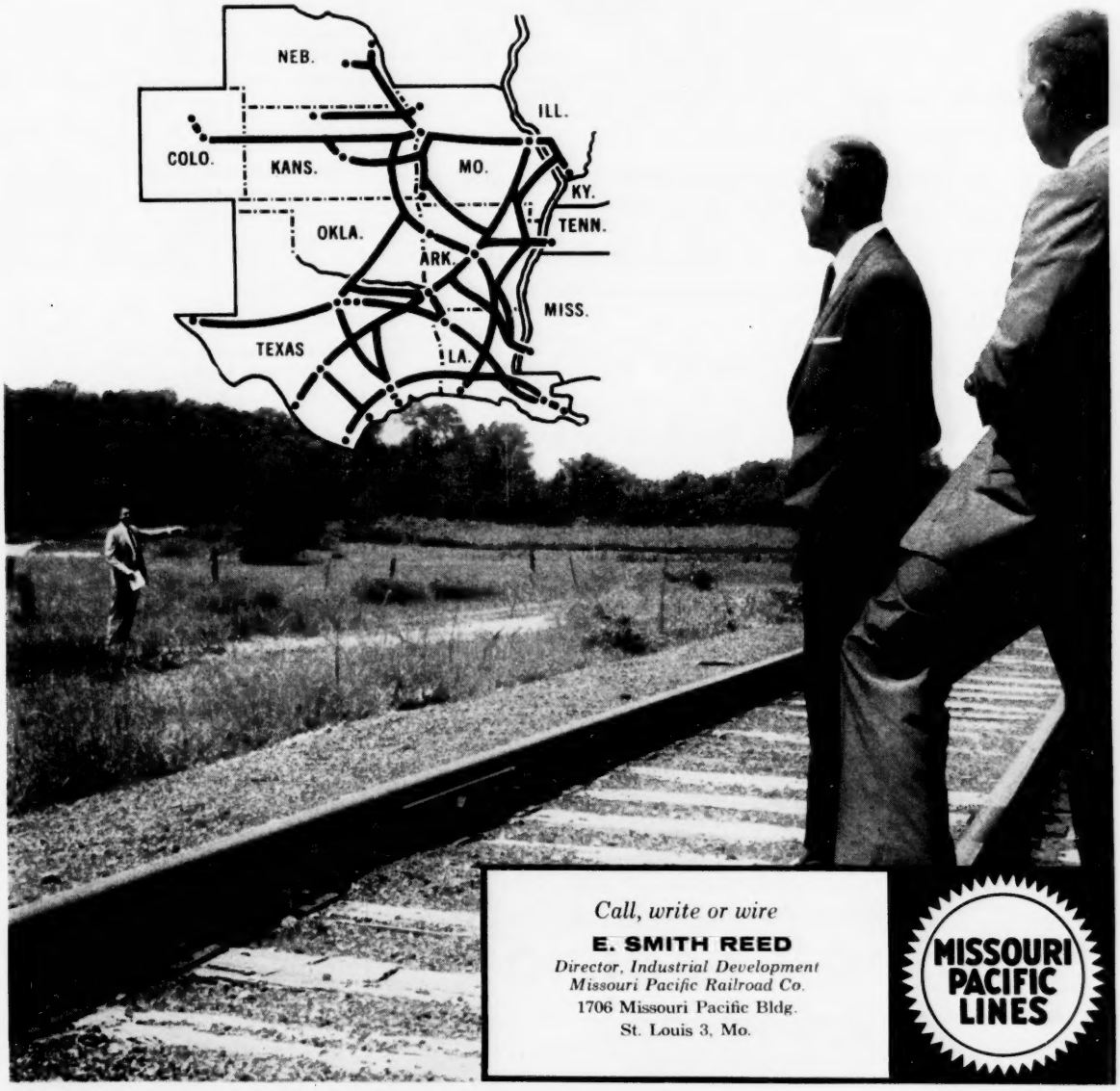
The other officers of A.R.D.A. elected in 1960 are, from left to right, Lyman B. Horton, Kenneth C. Lewis and Frederick V. Fisher. Mr. Horton, who is First Vice-President, is Commissioner of Agricultural and Mineral Development for the Milwaukee Road. Mr. Lewis, the Second Vice-President, is Manager of the Real Estate and Industrial Development of the Delaware and Hudson. Mr. Fisher, the Secretary-Treasurer of A.R.D.A., is Industrial and Land Commissioner for the Elgin, Joliet and Eastern.

# SITE-SEEKING TRIPS GLADLY ARRANGED!

**Missouri Pacific-arranged plant site inspection trips like this over the past 14 years have helped attract over 4500 new and expanded industries (worth more than $1½ billion) to the great and growing West-Southwest!**

Looking for a location? Let our Industrial Development specialists aid you. We'll gladly prepare a complete survey according to your needs: special charts, data on population, markets, labor, taxes, climate, power, resources, raw materials, transportation. (all inquiries kept in strict confidence, of course!)



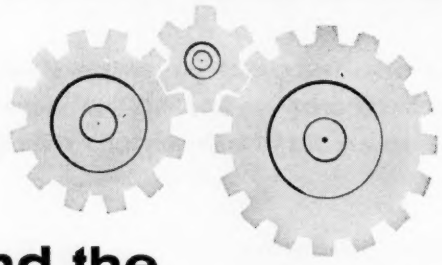
*Call, write or wire*

**E. SMITH REED**

*Director, Industrial Development*
*Missouri Pacific Railroad Co.*
1706 Missouri Pacific Bldg.
St. Louis 3, Mo.

MISSOURI PACIFIC LINES

# the wheels of industry



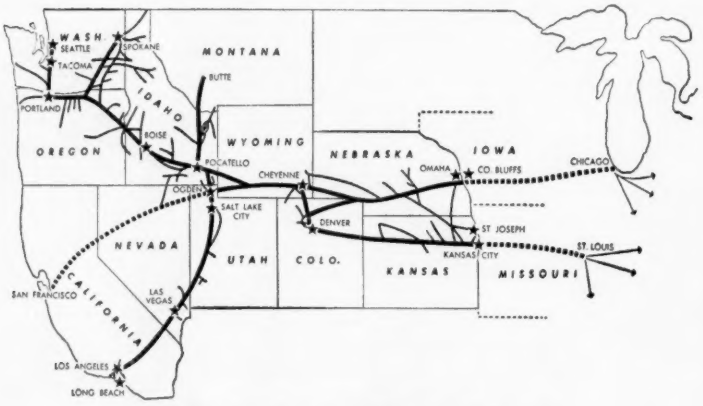
# and the wheels of transportation

***complement each other.*** One to produce . . . the other to keep products on the move.

In the Union Pacific West you'll find the materials, utilities and labor to supply new plant requirements.

And you can be assured of freight and passenger service second to none when locating a plant conveniently close to "U.P." trackage.

If considering building, buying or leasing a plant in the West for any purpose, we'll be pleased to have you check with any U.P. representative or get in touch with us direct.




***Industrial Development Dept.***

**UNION PACIFIC**

*Railroad*

OMAHA 2, NEBRASKA




following prominent speakers well-versed on their chosen subject, A.R.D.A. helps to sponsor the National Industrial Zoning Committee.

In helping to sponsor this organization valuable information has been provided to the members of A.R.D.A. Members attending "Annual Meetings" are better able to approach problems which arise on their respective railroads by an open discussion with the men from other railroads facing similar problems. This can best be illustrated by listing subjects which were on the agenda at recent meetings:

Trend and Outlook of Piggy-Back
Use and Renewal of Land Resources
Current Legislation affecting the Railroads
Sale of Excess Property
Selecting Plant Sites
Working with your Communities in Railroad Development
Advantages of Planning and Zoning in Promoting Industrial Growth
Opportunities for Improving the Effectiveness of Railroad Development Program.
Automatic Parking Control Systems and their Adaptation to Railroad Properties.
Industrial Plant Site Selection through the Physical Sciences.
The Utilization of Aerial Photography and Mapping for the Investigation and Development of Industrial Sites.
The Need for Railroads to Purchase and Hold Property as future sites for Industrial Plants.
Trends in Economic Land Settlement and Agriculture
Future Possibilities of Forest Growth
New Concepts of Zoning for Industrial Development
Cooperation with State and Community Industrial Authorities
Water, the Key to Industrial Development.

While the part played by A.R.D.A. in the development of the North American Railroads cannot be measured, it is safe to say there are few, if any, organizations that have contributed as much to an industry through the interchange of ideas by men in related work. The success of the Organization of so long a period can only be attributed to men devoted to their work — men with "railroad" in their blood.

# RAILROADS WITH ACTIVE DEVELOPMENT PROGRAMS

**The following list of railroads, set up alphabetically by the state in which the line has its headquarters, includes nearly all major lines with full-time development departments and a number of smaller lines which have facilities for helping an industrialist concerned with site selection. The letters at the end of most entries designate particular services offered, as shown in the following code: (A) Assisting communities in organizing development programs at local levels. (B) Promoting community improvement programs. (C) Conducting research on assets and resources of the area. (D) Advertising area and soliciting industrial inquiries. (E) Responding to inquiries and assisting prospects in actual site studies. (F) Assisting in obtaining sources of finance for plant location. (G) Making or having made community audits or surveys, keeping master file. (H) Conducting home town improvement contest, main street moderization, etc. (I) Advertising in national periodicals. (J) Preparing and mailing brochures, handling direct mail programs. (K) Setting up or helping set up planning and zoning programs. (L) Producing or distributing motion pictures for educational promotion use. (M) Purchasing research studies or retaining consultants to study area potential. (N) Holding workshops, orientation sessions at local level. (O) Helping set up local foundations or develop corporations. (P) Participating in financing organizations. (Q) Owning or planning ownership of industrial sites. (X) Questionnaire not returned.**

### ALABAMA

**Gulf, Mobile and Ohio Railroad Company,** 104 St. Francis Street, Mobile 5, Alabama. Serves northward from Mobile and New Orleans to Chicago and St. Louis; first-track mileage totals 2,766. Thomas T. Martin is Vice President, Industrial Development. X.

### ARKANSAS

**Delta Valley and Southern Railway,** Wilson, Arkansas. Railway serves Mississippi County Arkansas, with first track mileage totaling two. Total tonnage carried during 1959 was 53,179. Special facilities include interchange tracks at Delpro, Arkansas with Frisco Railway. No industrial development department. Railway has three industrial sites available, totaling 200 acres, 10% having rail sidings.

### CALIFORNIA

**McCloud River Railroad Company,** McCloud, California. Railroad serves northern California, with first track mileage totaling 100. Special facilities include main line connections with Southern Pacific, Great Northern, and Western Pacific. Handles all types of freight. No industrial development department. The railroad has four industrial sites available, totaling 100 acres, all served by rail sidings. C,E,Q.

**Sacramento Northern,** 526 Mission Street, San Francisco, California. Serves San Francisco Bay Area, Northern California Central Valley, with first track mileage totaling 226. Total tonnage carried is 318,095. Operates part-time industrial development department, of which F. B. Stratton is director. Approximately 100 industrial sites available, totaling approximately 900 acres, all served by rail sidings. A, B, C, D, E, F, I, J, K, M, N, P, Q.

**Santa Maria Valley Railroad Company,** P. O. Box 340, Santa Maria, California. Railroad serves Santa Maria Valley with first track mileage totaling 18. Total tonnage carried is 984,941. No industrial development department. One industrial site available with a total acreage of 23 and served by rail sidings.

**Southern Pacific Company,** 65 Market Street, San Francisco, California. Railroad serves West and Southwest, with first track mileage totaling 14,907. Tonnage carried totals 92,088,000. Operates industrial development department, of which Lawrence E. Hoyt is manager. Company has numerous industrial sites available for sale, all served by rail sidings. A, B, C, D, E, F, G, I, J, K, L, M, O, Q.

**Southern Pacific Company-Pacific Lines,** 65 Market Street, San Francisco, California. Railroad serves 7 states — Oregon, Utah, Nevada, California, Arizona, New Mexico, and Texas, with first track mileage totaling 8,065. Operates full-time industrial development department, of which L. E. Hoyt is manager. Over 150 industrial sites available for sale, totaling over 4,000 acres, all served by rail sidings. A, B, C, D, E, F, G, I, J, K, L, M, O, Q.

**State Belt Railroad,** Foot of Battery St., San Francisco 11, California; operated by the San Francisco Port Authority. Serves San Francisco waterfront with 60 miles of switching track. Connects directly with Southern Pacific and by car-ferry barges with other Bay Area lines. Part-time industrial development under supervision of J. H. Myers, Traffic Manager. C, D, E, I, J, L.

**Western Pacific Railroad System Lines,** 526 Mission Street, San Francisco, California. System serves northern and central California, with first track mileage totaling 1,133. Total tonnage carried is 7,069,333. Special facilities include piggyback ramps. Operates full-time industrial development department, of which F. B. Stratton is director. The lines have 20 industrial tracts available, totaling 3,659 acres, all served by rail sidings. A, B, C, D, E, F, G, I, J, K, M, N, Q.

### COLORADO

**Denver and Rio Grande Western Railroad,** 1531 Stout Street, Denver, Colorado. Railroad serves Colorado, Utah and Northern New Mexico, with first track mileage totaling 2,398. Total tonnage carried is 17,943,795. Special facilities include ramps for TFC interchange with motor carriers at Denver, Colorado Springs, Pueblo, Alamosa, Glenwood Springs, Grand Junction, Provo, Salt Lake City. Operates a full-time industrial development department, of which E. L. Beardsley is director. Approximately 60 industrial sites available, acreage totaling approximately 600, and all served by rail sidings. A, B, D, E, I, K, L, O, Q.

### DISTRICT OF COLUMBIA

**Southern Railway Company,** Washington, D. C. Railway serves entire Southeast, with first track mileage totaling 6,269. Total tonnage carried is 66,409,702. Special facilities include "push button" yards at Knoxville, Chattanooga, Birmingham and Atlanta. Operates full-time industrial development department, of which F. C. Toal is director. Railway has substantial acreages near eight important cities and smaller acreages at various points available. A, C, D, E, I, J, M, O, Q. Also, plans and accompanies industrial prospects on site and community inspection trips. Studies for track installation and planned industrial districts.

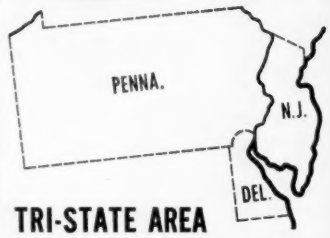
### GEORGIA

**Central of Georgia Railway Company,** 227 West Broad Street, Savannah, Georgia. Railway serves Georgia, East and Mid-Alabama, Chattanooga, Tennessee, with first track-mileage totaling 1,744. Total tonnage carried is 18,998,475 net. Operates full-time industrial development department, of which Harrell L. Perkins is director. Railway has industrial sites located in principal cities available totaling 3,000 acres, all served by rail sidings. A, B, C, D, E, F.

**Chattahoochee Valley Railway Company,** West Point, Georgia. Railway served Troup County, Georgia, Lee and Chambers Counties, Alabama, with first track mileage totaling 27. Total tonnage carried is 175,000. Special facilities include joint agencies at West Point, Georgia and Bleecker, Alabama. Operates part-time industrial development department which is headed by R. J. Morton, President. Railway has several industrial sites available, totaling 15 acres, and served by rail sidings. A, B, C, D, E, F, K.

### ILLINOIS

**Atchison, Topeka and Santa Fe Railway Company,** 80 East Jackson Boulevard, Chicago, Illinois. Railway serves Midwest, Southwest and West, with first

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track mileage totaling 12,992. Total tonnage carried is 65,830,721. Special facilities include trailer or flat car. Operates a full-time industrial development department, which is headed by G. W. Cox. Property available throughout the System on either side of the right-of-way. From a planned industrial standpoint, several thousand acres are available. C, D, E, F, G, I, J, Q.

**Chicago, Burlington and Quincy Railroad,** 547 West Jackson Boulevard, Chicago, Illinois. Railroad operates industrial development headed by O. O. Waggener. Thirty industrial sites are available, totaling 3,400 acres, all served by rail sidings. A, C, D, E, F, G, J, K, O, Q.

**Chicago and North Western Railway Company,** 400 West Madison Street, Chicago, Illinois. Railway serves states of Illinois, Iowa, Michigan, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming, with first track mileage totaling 9,284. Total tonnage carried is 51,343,000. Special facilities include piggy-back ramps and facilities with truckers and dock facilities at various points throughout our territory. Operates a full-time industrial development department, of which Gene F. Cermak is director. Hundreds of industrial sites are available, totaling 10 to 15,000 acres, all served by rail sidings. A, B, C, D, E, F, G, I, J, K, L, M, N, O, Q.

**Illinois Central Railroad Company,** 135 East Eleventh Place, Chicago 5, Illinois. Railroad serves 14 states in Midwest and South — Great Lakes to Gulf of Mexico, with first track mileage totaling 6,500. Total tonnage carried is 69,640,328. Special facilities include ocean-going vessels, barges, truck trailers via piggy-back service, flexi-van service. Operates full-time industrial development department, of which J. S. Frost is director. Approximately 5,000 industrial sites available, totaling approximately 140 acres, 5% served by rail sidings. A, B, C, D, E, F, G, I, J, K, L, M, N, O, Q.

**The Milwaukee Road,** 286 Union Station, Chicago, Illinois. Road serves 12 states — Chicago to Seattle, with first track mileage totaling 10,590. Total tonnage carried is 40,199,394. Operates part-time industrial development department, of which S. J. Cooley is director. 2,500 acres of industrial sites available, all can be served by rail. A, B, C, D, E, F, G, I, K, Q.

**Monon Railroad,** 608 South Dearborn Street, Chicago, Illinois. Railroad serves Indiana, Chicago, and Louisville, with first track mileage totaling 512.25. Total tonnage carried is 5,863,427. Special facilities include piggy-back. Operates full-time industrial development department, of which Rudolph H. Grabow is manager. Railroad has 10 industrial sites available, totaling 636 acres, served by rail sidings. A, B, C, D, E, F, G, J, K, O, Q.

**Rock Island Lines,** LaSalle Street Station, Chicago, Illinois. Lines serve Midwest and Southwest, with first track mileage totaling 7,535. Total tonnage carried is 42,625,133. Special facilities include Calumet Harbor-Port of Chicago, Port of Galveston, Texas City. Full-time industrial development department, of which P. J. Schmidt is manager. 25 industrial sites available, totaling 1,750 acres, all served by rail sidings. A, D, E, F, I, J, Q.

**Toledo, Peoria and Western Railroad Company,** Peoria, Illinois, Railroad serves Central Illinois, with first track mileage totaling 239. Total tonnage carried is 3,847,748. Special facilities include 2 barge connections, Illinois and Mississippi Rivers. Part-time industrial development department, of which J. R. Coulter is director. Six industrial sites available, totaling 6,400 acres, all served by rail sidings. A, E, F, I, J, Q.

### KENTUCKY

**The Carrollton Railroad,** Carrollton, Kentucky. Railroad serves Carroll County, Kentucky, with first track mileage totaling 8.8. Total tonnage carried is 107,000. Trackage close by Ohio and Kentucky Rivers. No department specifically devoted to industrial development activities. No industrial sites available.

**Kentucky and Indiana Terminal Railroad Company,** 2910 North Western Parkway, Louisville, Kentucky. Railroad serves Louisville, Kentucky, with first track mileage totaling 130. No special facilities for interchange with other types of carriers. However, direct interchange of cars is made between the Kentucky and Indiana Terminal and eight major railroads. Full-time industrial development department, which is headed by Joseph J. Gaynor. 150 acres of industrial sites available. A, B, D, E, F, J, K, Q.

**Kentucky and Tennessee Railway,** Stearns, Kentucky. Railway serves Stearns, Kentucky and McCreary County Kentucky in general, with first track mileage totaling 10.50. Total tonnage carried is 411,154. No industrial development department. Person to contact regarding industrial development is L. C. Bruce, Vice President. Railway has 9 acres of industrial sites available, all served by rail sidings.

**Louisville and Nashville Railroad,** 908 West Broadway, Louisville, Kentucky. Railroad serves states of Alabama, Florida, Georgia, Indiana, Illinois, Louisiana, Missouri, Mississippi, Kentucky, Ohio, North Carolina, Tennessee, and Virginia, with first track mileage totaling 5,696. Total tonnage carried is 73,378,095. Special facilities include loading ramps in a number of cities for handling "piggback" trailers, continuous conveyer at Pensacola for conveying Chilean nitrate from ship to shore, pipe line at same location for handling liquid creosote from ships to dockside storage tanks. Port facilities available at both Mobile and New Orleans. Operates full-time industrial development department, of which R. E. Bisha is director. Railroad owns several thousand acres of industrial development property scattered over its 5,700 miles of main line trackage. it is in numerous parcels and all of it is considered accessible to track service.

### LOUISIANA

**The Louisiana and North West Railroad Company,** Homer, Louisiana. Railroad serves Northwest Louisiana and Southwest Arkansas with first track mileage totaling 62.64. Total tonnage carried is 350,000 annually. Operates a full-time industrial development department, of which J. Reuel Coleman is manager. Approximately 200 acres of industrial sites available, rail sidings can be installed on short notice. A, B, C, D, E, F, G, J, K, M, O, Q.

**Reader Railroad,** Box 150, Prescott, Arkansas. Railroad serves Western Quachita, and Eastern Nevada Counties in Arkansas, with first track mileage totaling 23½. Total tonnage carried is 29,552. Operates part-time industrial development department, headed by T. W. M. Long, president. Railroad has 4 industrial sites available, totaling 160 acres, all served by rail siding. C, E, F, Q.

### MAINE

**Maine Central Railroad Company,** 222 St. John Street, Portland, Maine. Railroad serves States of Maine, Northern New Hampshire and Vermont, with first track mileage totaling 936. Total tonnage carried is 7,013,369. Special facilities include wharves, warehouses and storage sheds for handling package and bulk cargo. Operates full-time industrial development

department, of which J. P. Scully is director. Industrial sites available for sale or lease, 50% of which is served by rail sidings. A, C, D, E, F, I, J, Q.

### MARYLAND

**Baltimore and Ohio Railroad Company,** Baltimore, Maryland. Railroad serves area from New York to St. Louis and Chicago, with first track mileage totaling 5,911.21. Total tonnage carried is 100,382,551. Operates full-time industrial development department, of which Arnath W. Knabe is manager. Industrial sites available for sale. A, C, D, E, F, G, I, J, Q.

### MASSACHUSETTS

**Boston and Maine Railroad,** 150 Causeway Street, Boston 14, Massachusetts. Railroad serves northern New England, operates 1,574 miles of first track. E. F. Reed is Manager of the Industrial Development Department. X.

**New York, New Haven and Hartford Railroad Company,** Boston, Massachusetts. Railroad serves Connecticut, Massachusetts, Rhode Island, and Southeastern New York, with first track mileage totaling 1,762. Total tonnage carried is 19,905,149. Special facilities include piggy-back and lighterage of freight-New England Transportation Co. operates full-time industrial development department, of which Percy E. Benjamin is manager. The Railroad has numerous industrial sites available for sale, totaling 2,000 plus acres, 99% of which is served by rail sidings. A, B, C, D, E, F, I, J, K, O, P, Q.

### MICHIGAN

**Boyne City Railroad Company,** 112 South Park Street, Boyne City, Michigan. Railroad serves Boyne City, Michigan to Boyne Falls, Michigan, with first track mileage totaling 7.2. Total tonnage carried is 23,169. Pennsylvania Railroad at Boyne Falls, Michigan. No department specifically devoted to industrial development activities. Railroad has 1 industrial site available for sale, 7 acres, rail sidings.

### MINNESOTA

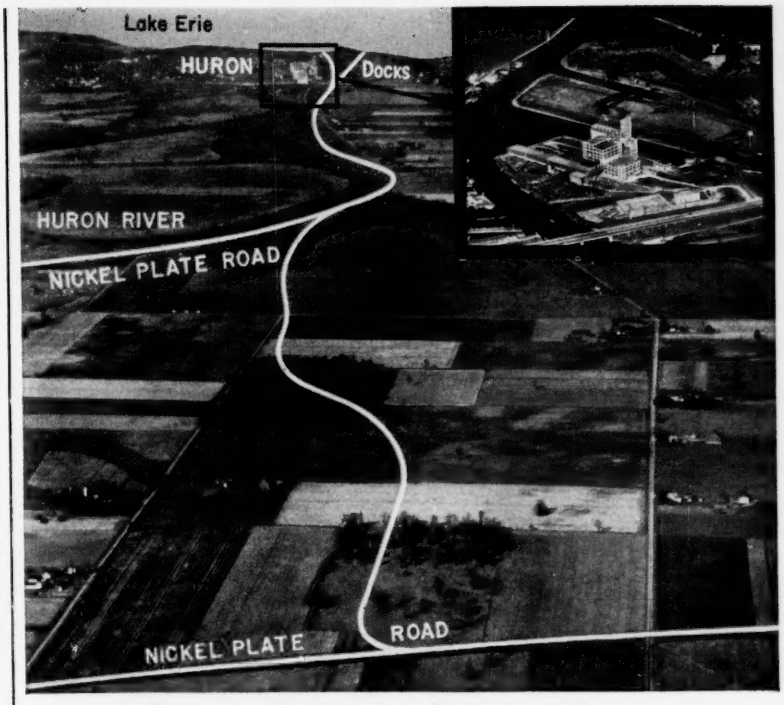
**Great Northern Railway Company,** 175 East 4th Street, St. Paul 1, Minnesota. Serves from Twin Cities to Pacific Northwest; first-track mileage totals 8,291. E. N. Duncan is Director, Industrial and Agricultural Development Department. X.

**Minneapolis, St. Paul, and Sault Ste. Marie Railroad Company (the Soo Line),** First National-Soo Line Building, Minneapolis 2, Minnesota. Serves Upper Midwest from Chicago and Sault Ste. Marie to eastern Montana; first-track mileage measures 4,200 miles. Maintains full-time industrial development department headed by George T. Bergren, Industrial and Real Estate Commissioner. Industrial sites for sale.

**Northern Pacific Railway Company,** Northern Pacific Building, St. Paul, Minnesota. Railroad serves Wisconsin, Minnesota, North Dakota, Montana, Idaho, Washington, and Oregon, with first track mileage totaling 2,757. Total tonnage carried during 1959 was 24,675,402. Special facilities include TOFC piggyback. Operates full-time industrial development department, of which P. D. Edgell is manager. Railway has 5,000 plus acres of industrial sites available for lease only, all served by rail sidings. A, C, D, E, F, I, J, K, O, P, Q.

### MISSISSIPPI

**Columbus and Greenville Railway Company,** 1302 Main Street, Columbus Mississippi. Railway services Northeast Mississippi and Mississippi Delta, with first track mileage totaling 168. Total tonnage carried is 1,148,580. Z. P. Hawkins handles industrial development activities. A, B, D, E, J, Q.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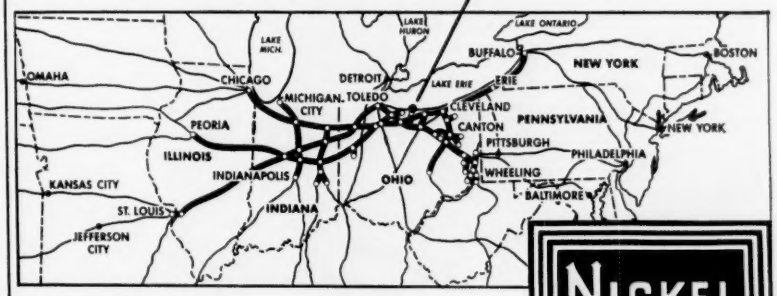


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**Fernwood, Columbia and Gulf Railroad Company** (Bonhomie and Hattiesburg Southern Railroad Company), Fernwood, Mississippi. Railroad serves Fernwood to Columbia, Mississippi-Pike, Walthall and Marion Counties. Hattiesburg to Beaumont, Mississippi-Forrest and Perry Counties, with first track mileage totaling 70. Total tonnage carried is 709,720. Special facilities include interchange tracks. Operates part-time industrial development department, which is headed by Iddo L. Enochs, President. Railroad has 4 industrial sites, totaling 182 acres, none are served by rail sidings.

**Mississippi Export Railroad Company**, Moss Point, Mississippi. Railroad serves Lucedale South through Moss Point to Pascagoula, Mississippi, with first track mileage totaling 42. Total tonnage carried is 564,690. Operates part-time industrial development department, which is headed by W. M. Dutton. Railroad has 6 industrial sites available, totaling 140 acres, 60% of which is served by rail sidings. A, B, C, D, E, F, H, I, J, K, Q.

### MISSOURI

**Kansas City Terminal Railway Company**, Union Station, Kansas City, Missouri. Railway serves Metropolitan Kansas City area. Switching and Terminal Company serving the twelve trunk line railroads entering Kansas City. Special facilities include adequate truck facilities for transfer to or from motor carrier. Operates part-time industrial development department, which is headed by Roy E. Barnes. Railway has 7 industrial sites for sale or lease, totaling 13.45, 40% of which is served by rail sidings. A, E, and co-operates with Chambers of Commerce of both Kansas Cities.

**Manufacturers Railway Company,** 2927 South Broadway, St. Louis, Missouri. Railway serves St. Louis Switching District, with first track mileage totaling 42.36. Railway has connections with all railroads serving St. Louis and East St. Louis. Has facilities for handling liquid bulk commodities. Operates part-time industrial development department, which is headed by W. M. Daughtrey. Railway has industrial sites available for sale and are served by rail sidings. A, B, E, F, G, J, O.

**Missouri-Kansas-Texas Railroad Company**, St. Louis, Missouri. Railroad serves States of Missouri, Kansas, Oklahoma and Texas, with first track mileage totaling 2,917. Total tonnage carried is 13,792,610. Special facilities include "piggy-back" facilities at major terminals. Railroad operates full-time industrial development department, of which W. W. Renfro is director. Railroad has 110 industrial sites available, totaling 839 acres, 40% served by rail sidings. A, C, D, E, F, I, J, K, M, Q.

**Missouri Pacific Railroad Company,** St. Louis, Missouri. The Railroad serves the Midwest and Southwest, with first track mileage totaling 9,456. Total tonnage carried is 63,721,233. Special facilities include facilities for interchange with all forms of water and motor carriers. Operates full-time industrial development department, of which E. Smith Reed is director. Railroad has numerous industrial sites for sale, totaling several hundred acres. A, B, C, D, E, F, G, I, J, K, N, O, Q.

**St. Louis-San Francisco Railway Company,** 906 Olive Street, Frisco Building, St. Louis, Missouri. Railway serves Alabama, Arkansas, Florida, Kansas, Mississippi, Missouri, Oklahoma, Tennessee and Texas, with first track mileage totaling 5,034. Total tonnage carried is 29,773,811. Special facilities include 27 TOFC locations, freight houses, livestock loading facilities, potato sheds, and coal tipple. Railroad has full-time industrial development department, which is headed by N. A. Kirchoff. 1,745 acres of industrial sites available for sale, all served by rail sidings. A, B, C, D, E, F, G, I, J, K, L, M, N, Q.

**Wabash Railroad System,** Railway Exchange Building, St. Louis, Missouri. Railroad serves Michigan, Ohio, Indiana, Illinois, Missouri and Iowa, with first track mileage totaling 2,419,69. Total tonnage carried is 22,753,963. Operates full-time industrial development department, of whch H. H. McIntyre is manager. Railroad has 82 industrial sites available for sale, totaling 3,000 plus acres, 98% served by rail sidings. A, B, C, D, E, F, G, I, J, K, L, O, Q.

### MONTANA

**Butte, Anaconda and Pacific Railway Company,** P. O. Box 1421, Anaconda, Montana. Railway serves Butte and Anaconda, Montana, with first track mileage totaling 25. Total tonnage carried is 9,813,683. Railway has good interchange facilities with four major trunk line railroads. Does not operate a department devoted specifically to industrial development activities. Industrial sites available for lease only. B, E.

### NEBRASKA

**Union Pacific Railroad,** 1416 Dodge Street, Omaha 2, Nebraska. Serves 11 Middle and Far Western states from Omaha and Kansas City to the Pacific; first-track mileage totals 9,743. Industrial development headed by A. C. Ritter, General Manager of Properties. X.

### NEW JERSEY

**Pennsylvania-Reading Seashore Lines,** 22 Federal Street, Camden, New Jersey. Lines serve six counties of Southern New Jersey comprising Camden, Atlantic, Cape May, Cumberland, Salem and Gloucester Counties, with first track mileage totaling 338. Total tonnage carried is 5,180,529. Jointly owned line of the Pennsylvania Railroad and Reading Company interchanging at Camden with parent companies. Operates full-time industrial development department, of which C. W. Omrod is director. Four industrial sites available, totaling 900 acres, all served by rail sidings. A, E, F, Q.

### NEW YORK

**The Dansville and Mount Morris Railroad Company,** Dansville, New York. Railroad serves Livingston County, New York State, with first track mileage totaling 9. Total tonnage carried is 54,533. No industrial development department. No industrial sites available.

**The Delaware and Hudson Railroad Corporation,** The Plaza, Albany, New York. Railroad serves eastern New York, western Vermont and northeastern Pennsylvania, with first track mileage totaling 706. Total tonnage carried is 16,315,810. Special facilities include piggy-back interchange with motor carriers at Mechanicville, New York and interchange with water carriers through Albany Port Railroad at Albany, New York. Operates full-time industrial development department, of which K. C. Lewis is manager. Railroad has 14 industrial sites available, totaling 719 acres, 10% of which is served by rail sidings. A, C, E, F, G, J, M, N.

**Delaware Lackawanna and Western Railroad Company,** 140 Cedar Street, New York, New York. Railroad serves New York State, Pennsylvania, and New Jersey, with first track mileage totaling 940. Total tonnage carried is 19,284,994. Special facilities include piggy-back facilities, all major cities; coal dumpers at 3 ports; docks, cranes and other harbor facilities at 3 ports. Operates full-time industrial development department, of which A. C. Hopkins is manager. Railroad has 180 industrial sites


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**Fonda, Johnstown and Gloversville Railroad Company,** 111 West Fulton Street, Gloversville, New York. Railroad serves Fulton County, New York State, with first track mileage totaling 20. Total tonnage carried is 85,364. Special facilities include connections with New York Central Railroad at Fonda, New York — freight interchange yard. Information regarding industrial development activities may be obtained from Howard C. Miller, General Manager. Four industrial sites available for sale; 3 with structure, 130 acres, all served by rail sidings. A, B, C, D, E, F, G, J.

**The Lehigh and Hudson River Railway Company,** P. O. Box 286, Warwick, New York. First track mileage totals 96, with total tonnage of 3,610,000. No department devoted specifically to industrial development activities. A, B, C, D, E, F, G, J, K.

**New York Central System** (includes Boston and Albany, Michigan Central, C., C., C., and St. L. and others), 466 Lexington Avenue, New York 17, New York. Railroad serves Northeast from Boston and New York to Chicago and St. Louis; 10,151 miles of first-track. Otto W. Pongrace is Director of Industrial Development. X.

### NORTH CAROLINA

**Atlantic Coast Line Railroad,** Wilmington, North Carolina (headquarters in process of moving to Jacksonville, Florida). Serves Virginia, the Carolinas, Georgia, Florida, and Alabama; first-track mileage totals 5,610. Industrial development headed by R. P. Jobb, Assistant Vice President, Industrial and Agricultural Development. X.

**High Point, Thomasville and Denton Railroad Company,** High Point, North Carolina. Railroad serves High Point, Thomasville and Denton in Piedmont North Carolina (Guilford and Davidson Counties), with first track mileage totaling 34. Operates full-time industrial development department, of which T. C. Kirkman is director. No industrial sites available for sale at present. Developing industrial park of some 68 acres — land held by Winston Land Company — development being held up for policy determination. A, B, C, D, E, F, K, O, P, Q.

**Laurinburg and Southern Railroad Company,** Laurinburg, North Carolina. Railroad serves Scotland and Hoke Counties, North Carolina, with first track mileage totaling 27.46. Total tonnage carried is 210,852. No department devoted specifically to industrial development activities. Industrial sites are available and rail sidings will be constructed as needed. J. W. Hollis, General Manager, is contact.

**Piedmont and Northern Railway Company,** 422 South Church Street, Charlotte, North Carolina. Railway serves Piedmont, North and South Carolina, with first track mileage totaling 126. Operates full-time industrial development department, of which T. G. Lynch is director. Approximately 600 acres of industrial sites available for sale, all served by rail sidings. D, E, F, Q.

### OHIO

**Erie Railroad Company,** Midland Building, Cleveland, Ohio. Railroad serves New York City to Chicago, Rochester, New York, Buffalo, New York, Cleveland, Dayton and Cincinnati, Ohio, with first track mileage totaling 2,239. Total tonnage carried is 27,260,812. Special facilities include piggy-back plans I, II, and III. Facilities at New York Harbor for import and export traffic. Iron ore handling facilities at Cleveland, Ohio. Full-time industrial development department, which is headed by D. M. Lynn. Railroad has 25 industrial sites available for sale, totaling 400-500 acres, 75% served by rail sidings.

**The New York, Chicago, and St. Louis Railroad Company (Nickel Plate Road),** Cleveland, Ohio. Railroad serves the Great Lakes — Midwest, with first track mileage totaling 2,170.40. Total tonnage carried is 41,182,080. Operates full-time industrial development department, which is headed by M. H. Markworth. A, C, D, E, F, G, I, K, N, O, Q.

### OKLAHOMA

**Midland Valley Railroad; Kansas, Oklahoma and Gulf Railway; Oklahoma City-Ada-Atoka Railway,** Muskogee, Oklahoma. Railroads serve eastern and north central Oklahoma, plus limited area in Kansas, plus Ft. Smith, Arkansas, and Denison, Texas, with first track mileage as follows: MV-334; KOG-327; OCAA-104. Total tonnage carried as follows: MV-1,072,084; KOG-2,781,620; OCAA-500,514. Operates full-time industrial development department, which is headed by L. H. Hammond. 5 industrial sites available for sale, totaling 499 acres, all served by rail sidings, plus numerous parcels of ½ city block or more in towns and cities served by railroads. A, C, D, E, F, G, J, M, Q. Also contributes to chambers of commerce and state agencies in joint promotional advertising expense.

**Northeast Oklahoma Railroad Company,** 400 North Main, Miami, Oklahoma. Railroad serves Miami, Oklahoma to Baxter Springs, Kansas to Carous, Kansas, with first track mileage totaling 45. Total tonnage carried is 974,550. Operates part-time industrial development department, which is headed by I. R. Estus. No industrial


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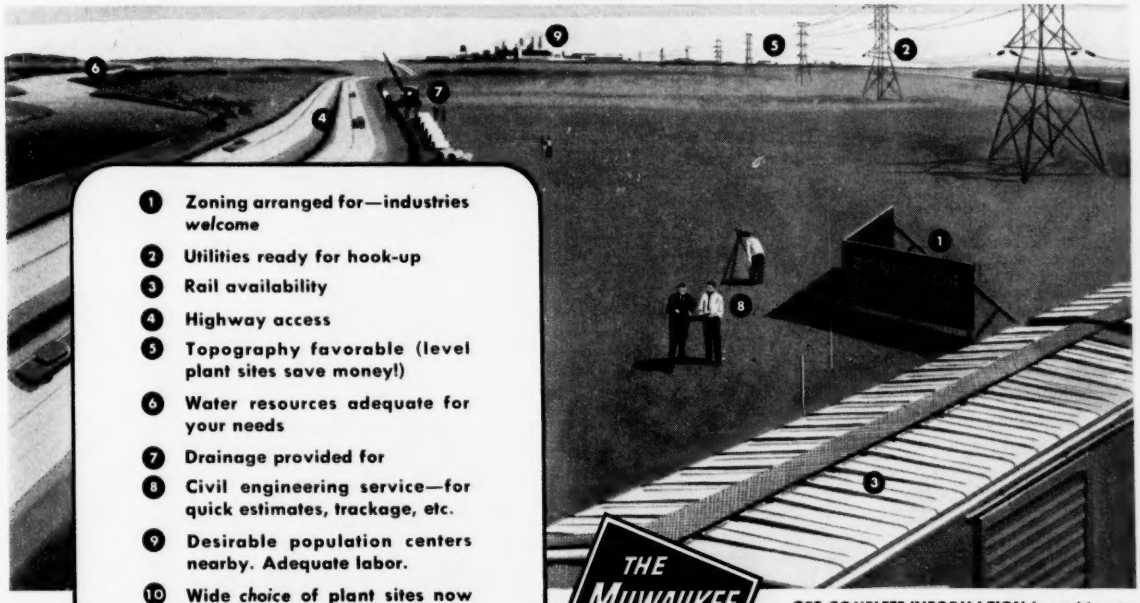


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sites available for sale. A, B, C, E, F, J, K, O.

### OREGON

**City of Prineville Railway,** Prineville Oregon. Railway serves Crook County, Oregon, with first track mileage totaling 19. Total tonnage carried is 236,000. Special facilities include team tracks. Industrial development activities are handled by C. C. McGlenn, Manager. 5 industrial sites available for sale, totaling 52 acres, all served by rail sidings. A, B, D, E, G, J, Q.

### PENNSYLVANIA

**Bessemer and Lake Erie Railroad Company,** Frick Building, Pittsburgh, Pennsylvania. Railroad serves western Pennsylvania area to Erie, Pennsylvania and Conneat, Ohio, with first track mileage totaling 208. Total tonnage carried is 20 million. Special facilities include piggy-back — seven major road connections. Operates full-time industrial development department, of which E. J. Smith, Jr. is manager. 23 industrial sites for sale, totaling 1,500 acres, all served by rail sidings — front on main line, 30% has siding. A, B, C, D, E, F, G, I, J, K, M, N, O, Q.

**Lake Erie, Franklin and Clarion Railroad,** 27 Ninth Avenue, Clarion, Pennsylvania. Railroad serves northwestern Pennsylvania, with first track mileage totaling 25. Total tonnage carried is 798,472. Special facilities for freight interchange are in development stages. No industrial development department. 5 industrial sites available, totaling 75 acres, 60% served by rail sidings. Many more sites could be made available in short time if needed. A, E, F, J, O, P.

**The Pennsylvania Railroad Company,** Transportation Center, Six Penn Plaza, Philadelphia, Pennsylvania. Railroad serves east of the Mississippi; north of the Ohio, to Atlantic Seaboard excluding New England, with first track mileage totaling 9,895. Total tonnage carried is 163,870,000. Has every known type of interchange facility. Operates full-time industrial development department, of which R. W. Grigg, is manager. Numerous industrial sites available, totaling 12,550 acres. A, B, C, D, E, F, G, I, J, K, M, N, O, Q.

**The Pittsburgh and Lake Erie Railroad Company,** Pittsburgh and Lake Erie Terminal, Pittsburgh, Pennsylvania. Railroad serves western Pennsylvania, northeastern Ohio, with first track mileage totaling 221. Total tonnage carried during 1959 was 21,962,230. Special facilities include rail-barge transfer facilities — Colona (near Monaca, on Ohio River), Pennsylvania. Operates full-time industrial development department, of which Arthur Longini is director. Industrial sites available for sale, all served by rail sidings. A, B, C, E, F, G, J, K, M, Q.

**Pittsburgh and Shawmut Railroad Company,** 132 North McKean Street, Kittanning, Pennsylvania. Railroad serves Lower Allegheny River in Pittsburgh District, with first track mileage totaling 110. Tonnage carried totals 1,500,000. Operates full-time industrial development which is headed by Thomas W. Corbett. Railroad has 11 industrial sites available for sale, totaling 1,600 acres, 10% served by rail sidings. A, B, C, D, E, F, H, J, K, M, O, P, Q.

**Reading Company,** 620 Reading Terminal, Philadelphia 7, Pennsylvania. Serves eastern Pennsylvania and parts of New Jersey and Delaware; first-track mileage is 1,286 and tonnage carried is 54,751,088. Operates full-time Industrial Development Department headed by F. X. McBrearty, Manager. Twelve industrial sites are available for sale, all with sidings; total acreage is 1,084. Special services include assistance in relocation to plants displaced by redevelopment and highway programs and engineering assistance in designing plant layouts. A, D, E, F, G, I, J, K, Q.

**Strasburg Railroad,** Box 70, Strasburg, Pennsylvania. Railroad serves Paradise and Strasburg Townships, Pennsylvania, with first track mileage totaling 4.5. Tonnage carried totals 5,000. Standard facilities with P.R.R. at Leaman Place, Pennsylvania. Operates part-time industrial development department, which is headed by Irl A. Daffin; one 40-acre industrial site available for sale, not served by rail siding yet. A, B, C, D, E, F.

### TENNESSEE

**Clinchfield Railroad Company,** Erwin, Tennessee. First track mileage totals 277. Total tonnage carried is 13,427,909. Operates full-time industrial development department, which is headed by M. Martz. Industrial sites totaling 500 acres available for sale, all served by rail sidings. A, B, C, D, E, F, G, I, J, Q.

**Tennessee, Alabama and Georgia Railway Company,** 200 East Tenth Street, Chattanooga, Tennessee. Railway serves area between Chattanooga, Tennessee and Gadsden, Alabama, with first track mileage totaling 93. Tonnage carried totals 1,152,910. Operates part-time industrial development department, which is headed by Garrison Siskin. Railway has several industrial sites available, totaling 50 acres, 50% served by rail sidings. A, C, E, G,

### TEXAS

**St. Louis Southwestern Railway Company (Cotten Belt),** P. O. Box 959, Tyler, Texas. Railway serves northeast, southeast and southwest Arkansas; northwest Louisiana; northeast, east and central Texas; east and southeast Missouri, with first track mileage totaling 1,554.38. Tonnage carried totals 12,189,518. Operates full-time industrial development department, of which R. D. Klein is Manager. Railway has 15 industrial sites available for sale, totaling 1,049 acres, 85% served by rail sidings. C, D, E, I, J, K, L, Q.

**Texas City Terminal Railway Company,** P. O. Box 591, Texas City, Texas. Railway serves Texas City, Texas with first track mileage totaling 6. Tonnage carried totals 1,934,750. Special facilities include rail and container to water and vice-versa. No industrial development department. J. B. Wimberly, General Manager, is contact. Railway has 4 industrial sites for sale totaling 335 acres, all served by rail sidings.

**The Texas Mexican Railway Company,** Laredo, Texas. Railway serves Laredo, Texas to Corpus Christi, Texas, with first track mileage totaling 161. Tonnage carried totals 1,338,144. No industrial development department. No industrial sites for sale.

**The Texas and Pacific Railway Company,** Fidelity Union Tower, Dallas, Texas. Railway serves Texas, Louisiana and Southeast New Mexico, with first track mileage totaling 1,692.46. Tonnage carried totals 16,328,478. Operates full-time industrial development department, of which Harry W. Clark is director. Railway has 24 industrial sites available for sale, totaling 1,059 acres, 50% served by rail sidings. A, C, D, E, I, J, M, N, O, Q.

### VIRGINIA

**Norfolk Southern Railway,** 405 Union Station Building, Norfolk, Virginia. Railway serves North Carolina and Tidewater, Virginia, with first track mileage totaling 592. Tonnage carried totals 4,989,808. Operates full-time industrial development department, which is headed by J. Milton Dillard. Railway has approximately 12 industrial sites for sale, totaling approximately 200 acres, all can be served by rail sidings.

**Norfolk and Western Railway Company** (recently merged with the Virginian Railway), 8 North Jefferson Street, Roanoke, Virginia. Serves the Virginias, North Carolina, Kentucky and Ohio; first-track mileage of 2,719. H. P. Cotton is Assistant Vice President in charge of industrial development. X.

**Seaboard Air Line Railroad Company,** 3600 West Broad Street, Richmond, Virginia. Railroad serves entire Southeast, with first track mileage totaling 2,085. Tonnage carried totals 53,104,957. Special facilities include piggy-back. Operates full-time industrial development department which is headed by Warren T. White. Railroad has numerous industrial sites available for sale, varying acreage, all served by rail sidings. A, C, D, E, F, G, I, J.

### WEST VIRGINIA

**The Chesapeake and Ohio Railway Company,** 1103 C & O Building, Huntington, West Virginia. Railway serves Virginia, West Virginia, Kentucky, Ohio, Indiana, Michigan, southern Ontario, with first track mileage totaling 5,122. Tonnage carried totals 102,145,035. Special facilities include piggy-back (terminals at Huntington, Charleston, Staunton, Chicago, Detroit, Buffalo, Saginaw, and Cincinnati), coal and ore piers at Toledo and Newport News. Operates full-time industrial development department, of which Wayne C. Fletcher is director. Railway has 80 industrial sites available for sale, totaling 7,500 acres, 5% served by rail sidings. A, C, D, E, F, G, I, J, K, Q. Other service offered includes advice on property to be included in industrial zoning, promote planning and development of industrial districts, advice on side track location, show prospects industrial sites; act as guides, act as agents for industry in the purchase or option of sites, and cooperate with other industrial development agencies.

**West Virginia Northern Railroad Company,** Kingwood, West Virginia. Railroad served Central Preston County, West Virginia, with first track mileage totaling 17. Tonnage carried totals 1,028,577. No industrial development department. J. D. Everly, General Manager, is contact. Railroad has 1 25-acre industrial site available for sale, served by rail sidings. A, B, D, E, O, Q.

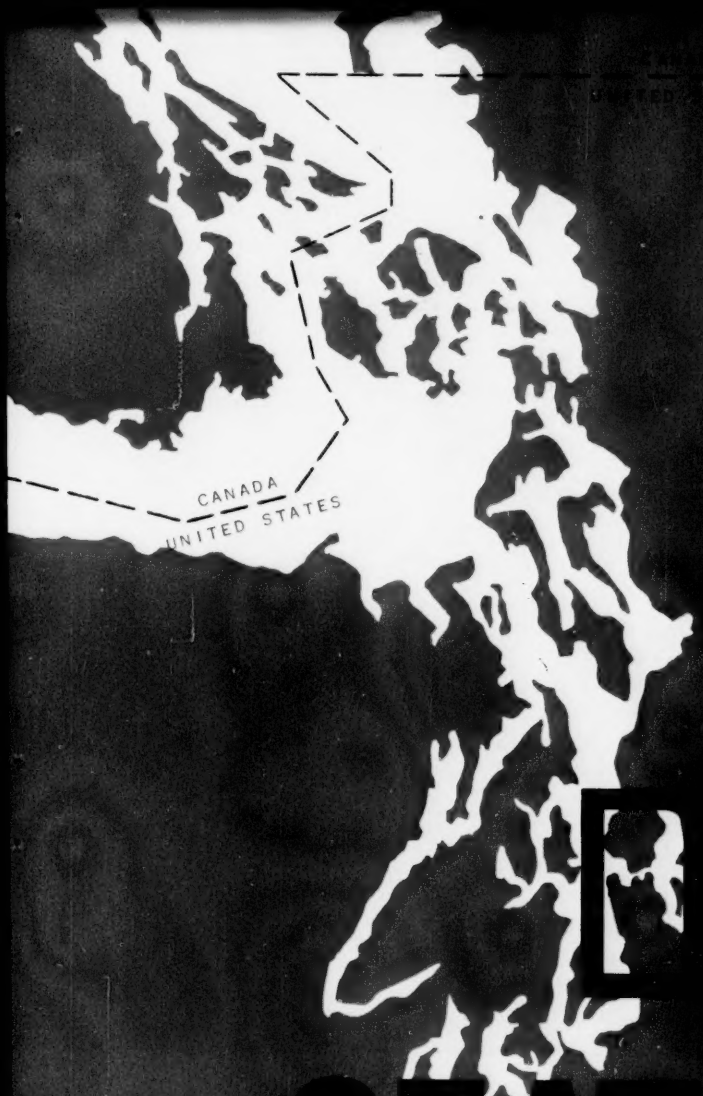
### WISCONSIN

**Chicago and North Western Railway Company,** 161 West Wisconsin Avenue, Milwaukee, Wisconsin. Railway serves Illinois, Iowa, Michigan, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming, with first track mileage totaling 9,284. Tonnage carried totals 51,343,000. Special facilities include piggy-back ramps and facilities with truckers and dock facilities at various points throughout our territory. Operates full-time industrial department, of which H. B. Buchholz is manager. Railway has hundreds of industrial sites available for sale, totaling approximately 15,000 acres, all served by rail sidings. A, B, C, D, E, F, G, I, J, K, O, Q.

### CANADA

**Canadian National Railways,** 407 McGill Street, Montreal, Quebec. Serves all ten provinces of Canada and has lines in the United States to Chicago, Duluth, Portland (Maine), and New London (Connecticut); tonnage carried is 82,035,539. Operates full-time industrial development department with staff of 35, headed by D. F. Purves, Chief of Development. Industrial sites available for sale. A, C, D, E, G, I, J, K.

**Canadian Pacific Railway Company,** Windsor Station, Montreal, Quebec. Railway serves all of Canada. Tonnage carried totals 57,878,732. Special facilities include piggy-back, trucking. Operates full-time industrial development department, of which F. W. Collins is manager. Industrial sites available for sale. A, C, D, E, G, I, J, M.




# SEATTLE

## WASHINGTON

INDUSTRIAL SURVEY BY

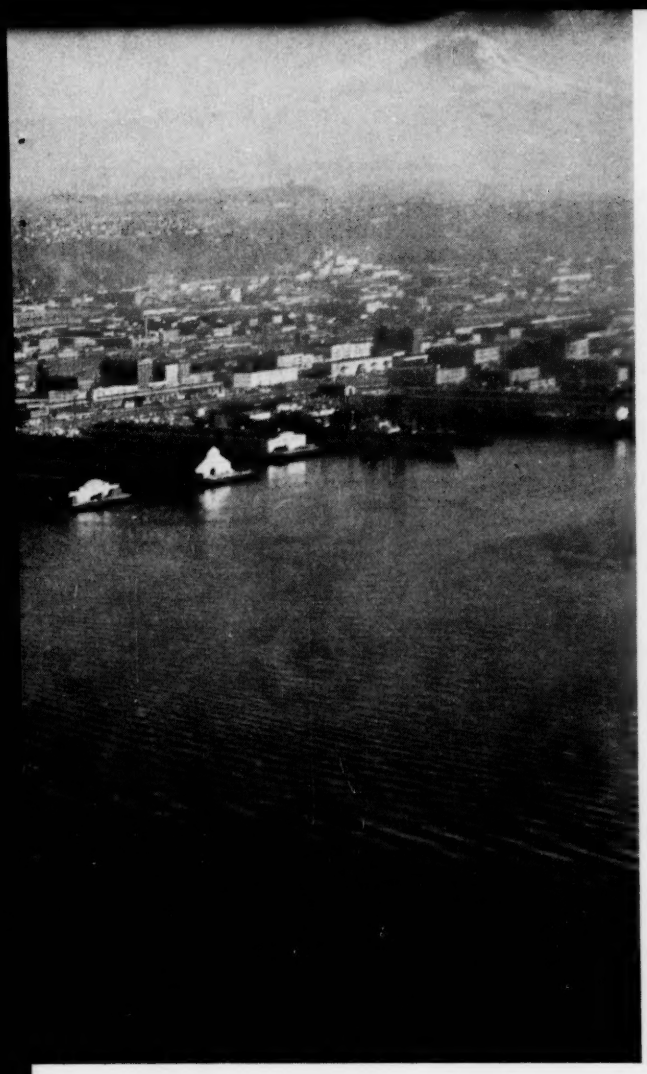
INDUSTRIAL DEVELOPMENT MANUFACTURERS RECORD

THE INTERNATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION

The Port, the new elevated expressway and the central business district in the foreground and Mount Rainier, 60 miles away, in the background—all of it here in one view. The tallest building is the L. C. Smith tower, and just beyond it in the middleground is a large hospital.

# SEATTLE: COSMOPOLITAN

**The 1960 Census saw two milestones passed in the Pacific Northwest — regional population went over five million while Seattle itself went over the half-million mark and became the nation's 18th largest city. This added stature, in conjunction with the city's marked personality, its mild marine climate, and its high-quality labor force, put Seattle high on the list of likely spots for sound industrial growth.**



# CITY WITH A FUTURE

*By Frank H. Stedman*

The first thing that newcomers to Seattle from other parts of the country are likely to notice is the flowers, which are everywhere, of every variety and of unusual perfection. They also catch frequent glimpses of broad expanses of water backed by hillsides covered with lush Northwestern forests. They will see a throughly metropolitan business district fronting on a bustling harbor, but they will not see many things that make the city prosperous — the rapidly growing regional market, the cheap power rates, the high calibre of local leadership, the quality labor pool, the favorable tax situation and the progressive government. If they stay, they soon hear about these things.

The city relies not only on its economic and geographic advantages but on a more personal appeal not unlike San Francisco's. Steep hills in the downtown area, many good Oriental and Polynesian restaurants, a mild coastal climate with some fog, and ships putting in from all over the world are all parts of the story. And ferries still ply back and forth on Puget Sound, as they no longer do on San Francisco Bay. From a ferry you can watch the reflection of the lights of the city while the moon comes up over the Cascades.

## Fiords Make Good Harbors

The Pacific coast of the United States and Canada, as any map of North America will show, has two strongly contrasting stretches — a regular coast with few indentations from San Diego to Cape Flattery, on the Washington side of the entrance of the Strait of Juan de Fuca, and from

there northward to Alaska a deeply indented coast with many off-shore islands. The U.S.-Canadian border passes through the Strait of Juan de Fuca, which is the southernmost of the series of fiords and the only one giving access to the United States, apart from Alaska.

These fiords were carved by glaciers that extended all the way to sea level in the not too distant past, as they still do in many places in southern Alaska. Fiords are usually very deep and make excellent harbors, with no dredging required. But only those with ready access to a rich hinterland have given rise to a great port.

Puget Sound, which opens on the strait, is one of a series of tributary fiords threading the large lowland between the Olympic Mountains in the west and the Cascades in the east.

There is no lowland route through the Cascades to reach the Inland Empire of the middle Columbia and Snake river basins except that provided by the Columbia itself, past Portland. but three relatively easy passes, the Stevens, the Snoqualmie and the Stampede, lead across the Cascades from the Puget Sound lowland and they have the advantage of being in line with passes in northern Idaho and western Montana that give access to the upper Missouri valley.

Even so, Seattle remained a small town for 30 years after its founding in 1851. In its early years it was concerned mainly with salmon fishing and shipping out lumber for the California miners.

## Eighty Years of Growth

Finally in 1883 the first railroad, the Northern Pacific, reached Puget Sound, to be followed by the Great Northern, the Milwaukee and the Union Pacific, and population in the port towns leaped ahead. Seattle, with a central location with respect to the three passes, forged ahead of the others and began to compete seriously with Portland as the major western outlet for the whole northwestern quarter of the country.

Then in 1897 the first ton of Alaska gold arrived in Seattle, and a new boom was on. Seattle's population, which had been only 3,533 in 1880, shot up to 42,837 in 1890, 80,671 in 1900 and 237,194 in 1910. In the latter year, Seattle passed Portland, which checked in with 207,214; it moved up the national rankings from 47th place to 21st.

By that time established as the largest city west of Minneapolis and north of San Francisco, Seattle has been able to maintain its position ever since as the dominant economic center of the Pacific Northwest, although it still looks over its shoulder frequently to note that Portland is not very far behind.

Since then its growth has been in line with the regional growth, which has been aided successively by the opening of the Panama Canal in 1914, the shipbuilding boom during the First World War, the large-scale power development of the Thirties and Forties, the enormous build-up of war industries and shipping in the early Forties and the renewed emergency period of the Korean War.

Aircraft production at Boeing was a major factor during the Second World War, but became still greater during the Korean War and continued to expand right up until early last year, when nearly 75,000 were employed at the several Boeing plants in the Seattle area — the largest employment by any single aircraft company in one area anywhere in the world. Since then the impact of the conversion from airframes to missiles has been felt, and employment at Boeing has contracted by about one-fifth.

## Seattle Area Tops Million

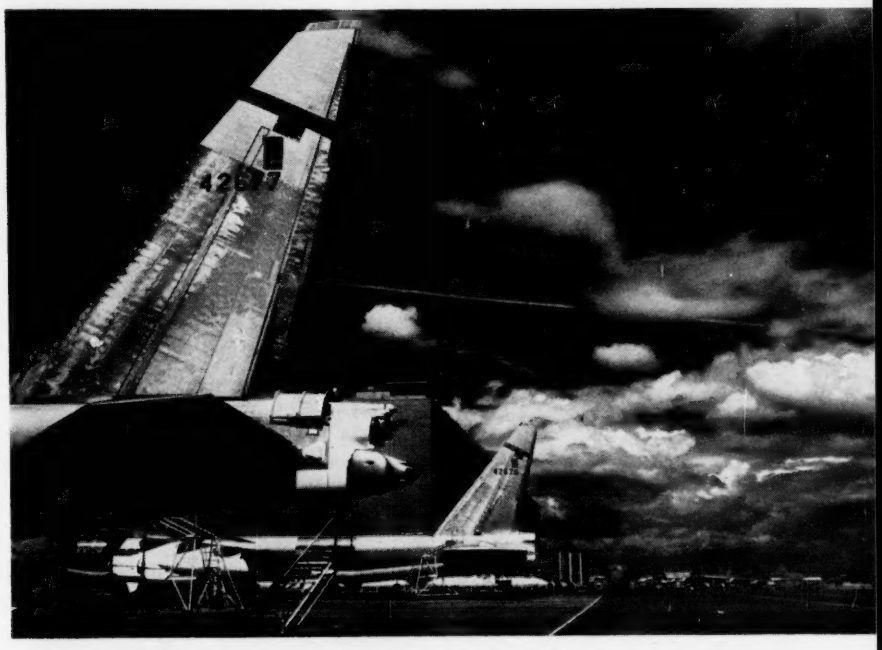
Meanwhile, Seattle's population within the city limits has passed the half-million mark and is over a million in the metropolitan area. Preliminary figures for 1960 show 550,525 people in the city and 1,096,778 in King and Snohomish counties, which make up the standard metropolitan area. Seattle now ranks 18th nationally, and is one of the relatively few large cities still able to register a gain within the city limits. This is partly because sizeable areas to the north were annexed to the city in 1953 and 1954.

Immediately south of King County is Pierce County, which constitutes Tacoma's standard metropolitan area and has 320,000 people. The other nine counties fronting on Puget Sound and the Strait of Juan de Fuca bring up the total population within easy reach of Seattle — less than 100 miles in most cases — to 1,750,000.

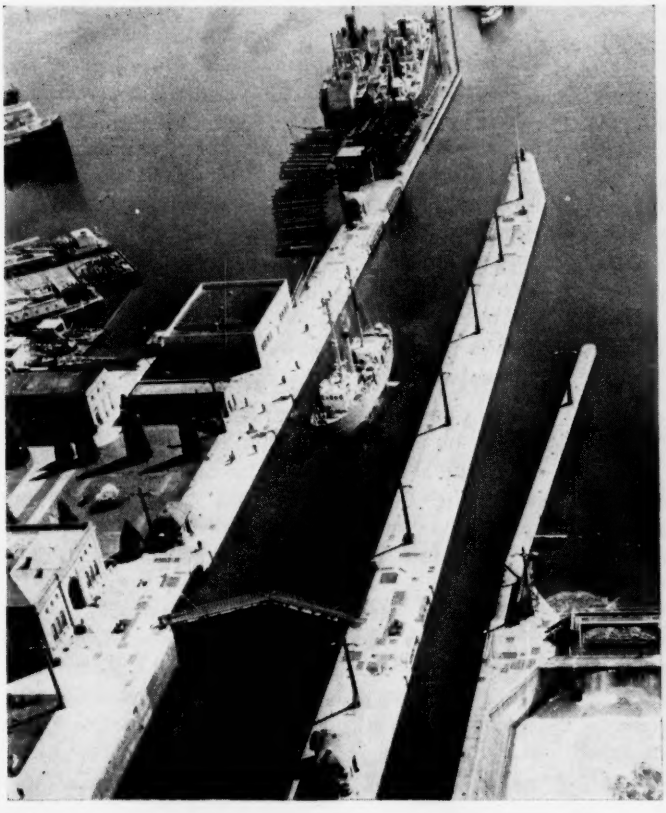
The population of Washington, Oregon and Idaho has now mounted to 5,250,000, up nearly two million from the 3,350,000 registered in 1940. With another 1,570,000 in British Columbia and 170,000 in Montana west of the Continental Divide, a regional total of 6,990,000 can be reckoned for the area ordinarily included in the Pacific Northwest of the United States and Canada.

## A Water-girt City

Seattle extends for 13 miles, not counting indentations in the coastline, along the east side of Puget



The size of a Boeing 707, in case you haven't ridden in one, is impressive, as the height of the tail assembly indicates. As the home of these great craft, Seattle is responsible for a very large share of the passenger-miles measuring present-day air travel.



Fresh water joins salt water here at the Chittenden Locks on the waterway connecting Lake Washington with Puget Sound across the northern part of Seattle. The 22-foot drop here is accomplished by either of two chambers, the larger accommodating vessels of several thousand tons.

Sound. It occupies an isthmus between the sound and Lake Washington, a long, narrow lake roughly parallel to the sound. The isthmus is narrowest — just over two miles — in the downtown area, and is rarely over 6 miles wide elsewhere. A good share of the population looks out across an expanse of water, the more so since the present outlet of Lake Washington crosses the northern part of the city and widens out midway to form Lake Union.

Suburban development is spreading north and south beyond the isthmus and eastward across Lake Washington by way of the remarkable floating bridge built on concrete pontoons. Ferries run across the sound to Bremerton, which has a big naval base, and to smaller communities on the mainland and on islands in the sound.

The main area of port development is along the shore of Elliott Bay and on the filled area of Harbor Island immediately south. Depths are so great in the bay that some piers run out at an angle to get sufficient frontage for ships of any size to tie up. But the filling of tidal flats at the southern end of the bay has produced miles of frontage lining the East and West Waterways and extending up a canalized stream known as the Duwamish Waterway. There is also extensive frontage for smaller craft along the waters connecting the sound with Lake Washington.

The central business district occupies an area 13 blocks long and 8 blocks wide fronting the northeast shore of Elliott Bay. In this area, the oldest part of the city, streets run parallel to the bay and perpendicular to it, but the newer sections are laid out mostly in north-south and east-west numbered streets and avenues, without regard to the coast. The downtown area is dominated by the 42-story L. C. Smith Building, put up in the Twenties; a number of others exceed 20 stories and new construction in the last few years is filling many of the gaps.

South of the central business district are the railroad terminals and a large wholesale area which grades into industrial around the southern part of the harbor and inland southward along the Duwamish Waterway. Other industrial areas are associated with the shipping facilities that surround Lake Union and its connecting waterways in the north central part of the city.

Although the prevailing character of the city is hilly, elevations within the limits are generally under 500 feet. A 25-mile belt of land mostly under 1,000 feet borders Puget Sound for about 80 miles, with the center of the lowland a little south of Seattle. It is broken just east of Seattle by a range of foothills of the Cascades that almost reaches Lake Washington.

The Cascades themselves crest about 50 miles east of Seattle. Most of the summits nearest the city are between 6,000 and 8,000 feet, but the crowning glory of Seattle's setting, Mount Rainier, towers to 14,410 feet and never loses its snow. Don't believe the reports that it is almost never visible; although it is 60 miles away, it looms up higher in the sky than you would expect and is easy to mistake for a cloud.

In the other direction are the Olympic Mountains, which rise to nearly 8,000 feet and are far less known than the Cascades, although many will recall the beautiful country shown in Walt Disney's remarkable film on the Olympic elk.

Seattle's climate, remarkably like that of England, is typical of that found in western Washington and Oregon but nowhere else in this country. Its January mean of 41 compares with 42 in Memphis and Little Rock, while the July mean of 66 is the same as for Duluth. Another way of looking at it would be to say that a year in Seattle is like Richmond, Virginia from October through May, or Portland, Maine from April through October. Its rainfall of 31 inches shows a marked dip in the summer, but not so pronounced as in Oregon, and serious droughts are rare.

With a long growing season and a gradual progression from month to month, Seattle gardeners have a far better chance of a reward for their efforts than their colleagues elsewhere, and the stands of flowers and shrubs all over the city are unequalled short of England. This is one of the great rewards of living in Seattle and undoubtedly has much to do with the reluctance most Seattleites show at the thought of living anywhere else.

## Forests, Fisheries and Farms

The combination of ample rainfall, a long growing season and vast areas too rough for agriculture has made the Pacific Northwest one of the great lumbering areas of the world. Washington alone had 13.1 per cent of the nation's net volume of growing stock on commercial forest land in 1953 — 65.2 billion cubic feet out of 498 billion.

Net annual growth and net annual cut for 1952 of softwoods, more valuable than hardwoods as lumber, totalled 614 million and 776 million cubic feet, respectively, for Washington, and 6,981 million and 7,475 million cubic feet respectively, for the United States.

The lumbering industry as a whole is of course

Seattle's Seward Park supports both a fine grove of trees, lush undergrowth and several million trout and salmon fingerlings reared in the hatcheries.

widely dispersed, and Seattle benefits indirectly much more than directly; its role as banker, wholesaler, machinery supplier and shipping headquarters for the lumbering area is more important than the actual processing of wood within the city limits.

Somewhat the same thing is true of fishing, although a good share of the state's annual catch of 100 million or more pounds is landed in Seattle. Many Seattle residents have at some time in their lives spent a summer on a cannery run somewhere in Alaska, and statehood has not severed the close ties between Seattle and the southeastern panhandle of Alaska, where fishing is the main business.

Wheat from eastern Washington and parts of neighboring states is exported from Seattle, but nearby farms produce mainly dairy products and fruits and vegetables. Canning is a major industry in and around Seattle, and has given rise to an important container industry within the city.

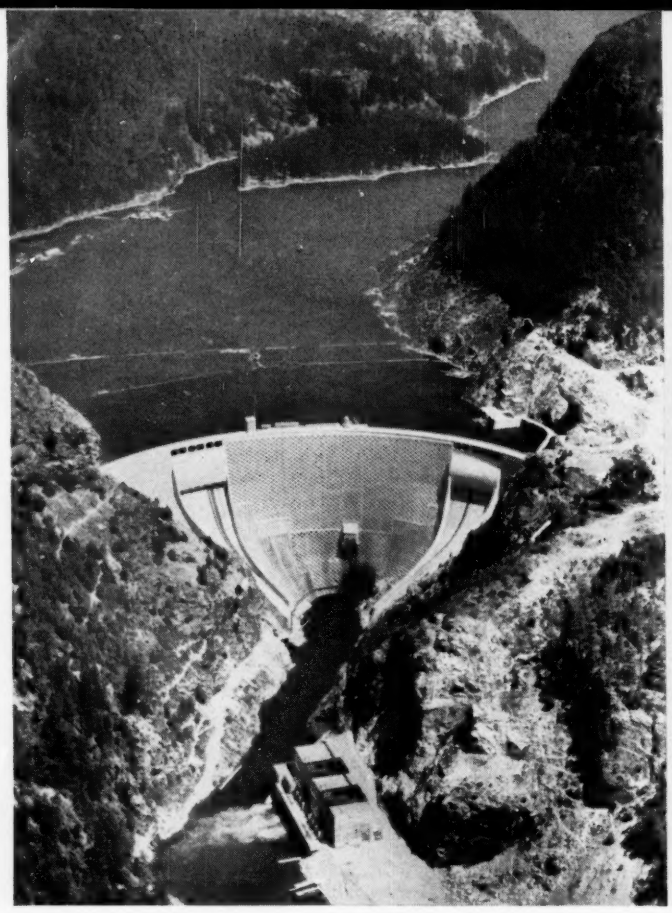
Minerals produced in the vicinity of Seattle are limited to sand and gravel, stone for cement and road building, and less than a million tons annually of sub-bituminous coal. Far more significant are the vast quantities of aluminum turned out by West Coast plants using the cheap hydroelectric power from big dams on the Columbia and other rivers.

Equally important for the future of Seattle are the oil and gas of Alberta and British Columbia, for which the Puget Sound area is the nearest sizeable market. Already no less than five refineries have been developed on Puget Sound and three more are planned, though none of them is in Seattle itself. Washington now ranks second only to California among the eleven Western states in total refinery capacity.

Natural gas now reaches the Puget Sound area both from northeastern British Columbia and from the San Juan Basin, in the four-corners area of Arizona, New Mexico, Utah and Colorado.

## Unlimited Power

The enormous importance of water power in the industrial picture of the Pacific Northwest can be illustrated by the fact that Washington already had in 1957 a total of 4.66 million kilowatts of installed hydroelectric capacity out of a national total of 27.8 million. Estimates of undeveloped capacity at that time gave Washington 18.5 million kilowatts, better than a fifth of the national total of 90.2 million.



High in the Cascades not far from the Canadian border is the 540-foot Ross Dam on the Skagit River, a main source of power for the municipal utility, Seattle City Light. The four generators are rated at 90,000 kilowatts each, but can produce an additional 22,000. When the contemplated raising of the dam by an additional 125 feet takes place, the waffle design will disappear as a thickening layer of concrete is applied.

Unlike most states, nearly all of Washington's installed capacity was hydroelectric in 1957, since the total capacity from all sources was 4.9 million. By contrast, Texas had a total installed capacity of 6.4 million kilowatts, much of it in plants using local natural gas, and only 0.4 million kilowatts in hydroelectric plants.

Seattle's supply comes from the municipal system, Seattle City Light, which also serves northward from the city to the Snohomish County line and southward to the limits of Renton and Tukwila. It thus includes the prime industrial sites in the Duwamish valley within and south of Seattle.

The main source of City Light's power comes from the Ross, Diablo and Gorge plants on the upper Skagit River, about 100 miles northeast of Seattle, where a drainage area of 1,160 square miles with an annual average rainfall of 72 inches has been harnessed. Total capability of the 12 installed units on the Skagit, four of them of 90,000 kilowatts, is 684,000 kilowatts.

City Light also has two steam plants in Seattle, with a total capability of 61,000 kilowatts, but these are now largely for standby use. The major supplement to its own hydro plants comes from a complicated series of interchanges with the Bonneville Power Administration and several other public utilities in Washington. Now under consideration by the Federal Power Commission is an application by City Light to construct a 540,000-kilowatt plant on the Pend Oreille River near the eastern boundary of Washington. Power from this plant would be turned over to the Bonneville Power Administration in Spokane in exchange for an equivalent amount of power from BPA's western extension near Seattle.

City Light's commercial and industrial customers have increased their use of electricity from 339 million kilowatt-hours in 1949 to 1.6 billion in 1958; during this same period, City Light's commercial and industrial revenue has mounted from $4.3 million to $14.5 million. The *average* cost per kilowatt-hour has dropped to 0.9 cents and large industrial users get their power at less than 0.6 cents.

Residential users also have the advantage of rates averaging slightly less than a cent per kilowatt-hour — among the lowest in the country. In 1959, the average residential customer used 8,660 kilowatt-hours, more than twice the national average, and was billed $84.63.

Gas service is provided by the Washington Natural Gas Company, which was formed by the merger

of two companies furnishing manufactured gas in 1955. Since 1956, when the Pacific Northwest Pipeline Corporation's line from the San Juan Basin reached the area and conversion to natural gas took place, there has been a big spurt in gas consumption. In the following year, Canadian gas was tapped at the border by Pacific Northwest and this too is now available, and may ultimately be the main source of supply.

Seattle's municipal water supply, which will ultimately service most of the urbanized part of King County, is drawn currently from the Cedar River watershed southeast of the city. Work now underway on a reservoir on the South Fork of the Tolt River, east of the city and also drawing from the Cascades, will add 90 million gallons a day to the existing 195 million gallons. A projected reservoir on the North Fork of the Tolt will add an additional 90 million gallons, while plans are being prepared for an ultimate doubling of the storage capacity of the Cedar River reservoir.

## Closest Port to the Orient

Seattle and San Francisco are on almost the same longitude — in fact, Seattle is four minutes of one degree farther east, so that anyone looking at a world map on a Mercator projection would be inclined to doubt Seattle's claim to be the closest port to the Far East. But if you take a globe and a string you will see that it's quite true. To get to Yokohama from any of our West Coast ports you sail northwest almost to the Aleutians and then head southwest.

Seattle is much more obviously the closest American port to Alaska, and ever since the Alaska Gold Rush the ties have been strong. In a sense, Seattle is the largest city in Alaska.

Total trade in and out of Seattle, including coastwise, amounted to 14.6 million tons in 1957. In that year it ranked third, after San Francisco Bay and Los Angeles, on the West Coast. Foreign trade in 1959 came to 2.2 million tons, almost equally divided between exports and imports. Imports have been rising almost steadily from less than 200,000 tons in 1947, whereas exports have fluctuated. The peak of 1.35 million tons in 1957 surpassed the 1946 and 1952 peaks and has not been equalled since.

A trip around the harbor takes you past a hospital ship being fitted out for World Health Organization service in Indonesia and Southeast Asia, a supply ship loading up for the annual late summer

East Waterway, with the filled land of Harbor Island in the foreground, is a major part of Seattle's thriving port. The grain elevator has been supplemented recently by the unusual oval-shaped tanks that lie behind it.

run to the DEW line outposts in northern Alaska and Canada, a Japanese liner loading grain, a pile of Philippine mahogany on a pier, a United Fruit boat unloading bananas and a freighter unloading Renaults and Peugeots. A number of ships are undergoing repairs of various kinds, including one in a large drydock, and a World War II battle wagon is being cut up for scrap.

The Port of Seattle, a public agency responsible for the whole coastline of King County, is a major factor in building up and modernizing facilities. It now administers no less than 20 of the 80-odd piers. Pier 20 on East Waterway has recently been reconstructed to include the most up-to-date cargo-handling and storage facilities and provides three full 570-foot berths. In the same area is the Foreign Trade Zone, Seattle's own "Free Port," where imported goods can be stored, exhibited, processed and re-exported without being subject to duty or customs regulations.

The steamship 55 lines serving Seattle make an illustrious list — the French and Italian lines, Furness, Hamburg-American, Mitsui, NYK, Canadian Pacific and such American stand-bys as Grace, waterman, Matson, United Fruit and Luckenbach figure prominently among them. Consular representatives are maintained in the city by 27 foreign countries, and The Port of Seattle has its own Far Eastern representative in Kobe.

The Seattle-Tacoma International Airport, which is 12 miles from Seattle and 18 from Tacoma, is part of the Port of Seattle. As important to service to the Far East as Miami is to Latin American air travel, it is also destined to be a major stop on polar flights between Europe and California. Its impressive new facilities make it a major Northwestern showplace, and it accommodates more than a million and a half passengers yearly, many of whom arrive on jets.

The lines using the airport include three major domestic lines — Northwest, United and Western; three international lines — Pan-American, Trans-Canada, and Japan Air Lines; two lines to Alaska — Alaska Airlines and Pacific Northern; plus a local service line — West Coast Airlines.

Three of Seattle's railroads, the Great Northern, Northern Pacific and Milwaukee, operate transcontinental "name" trains out of Seattle to the Twin Cities and Chicago. They and the Union Pacific all operate trains to Portland where connections are made with the Southern Pacific for California.

Within Seattle the pattern of trackage rights and switching zones is complicated, but 18.5 miles of track serving the harbor and the eastern side of the Duwamish industrial area are jointly owned by all four lines. Extra switching charges do not apply to inter-line shipments in this area. The southern limit of the Seattle switching district lies a mile or two south of the city limits; proposals have been made to extend it to include industrial property further south along the Duwamish.

Two interstate highways will intersect in Seattle when the system is complete. Route 5 will generally follow the present US 99 connecting major West Coast centers. Route 90 will follow the present route of US 10 as far east as Billings, Montana and thereafter will cross South Dakota and southern Minnesota on its way to Chicago. East of the Cascades, Route 82 will connect it at Pendleton, Oregon with Route 80N, which is to traverse southern Idaho and Wyoming toward Omaha and Chicago.

## Now is the Time

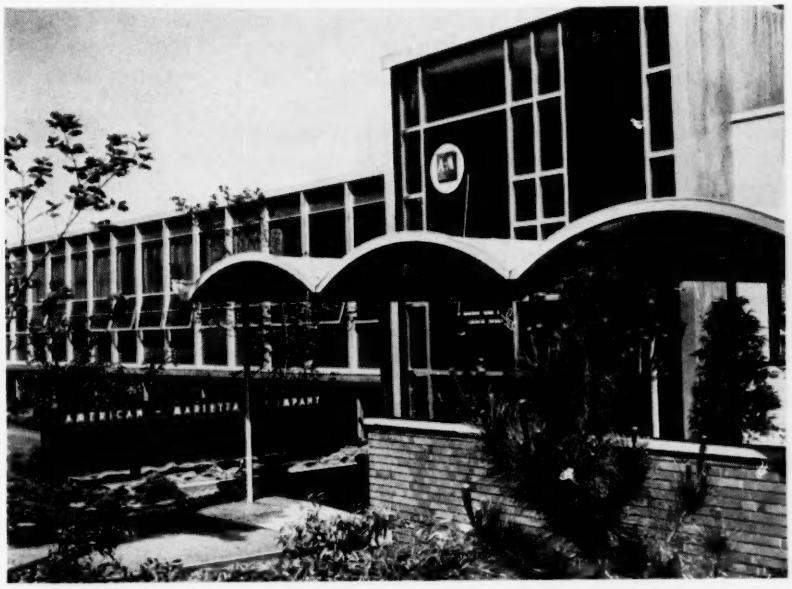
Seattle currently presents an unusual opportunity for manufacturers — a long-term growth area in a temporary lull. After a sustained rise in manufacturing employment from 57,600 in 1948 to exactly double that figure — 115,200 in January, 1959, the total receded by May of this year to 102,600. Aircraft employment figures — almost entirely at Boeing — for the corresponding periods were 15,200; 73,400; and 56,100. By simple subtraction to get corresponding figures for all other manufacturing, we get 42,400; 41,800; and 46,500.

In other words, during the periods of Boeing's rapid expansion, other manufacturers in the area lost ground slightly; but since its tapering off as airframe contracts ran out, other lines have been able to spurt ahead. The chances of finding labor with industrial experience in Seattle are now better than they have been for years and they are not likely to remain so good for long because of the upsurge in employment expected when work gets underway on the upcoming Century 21 Exposition.

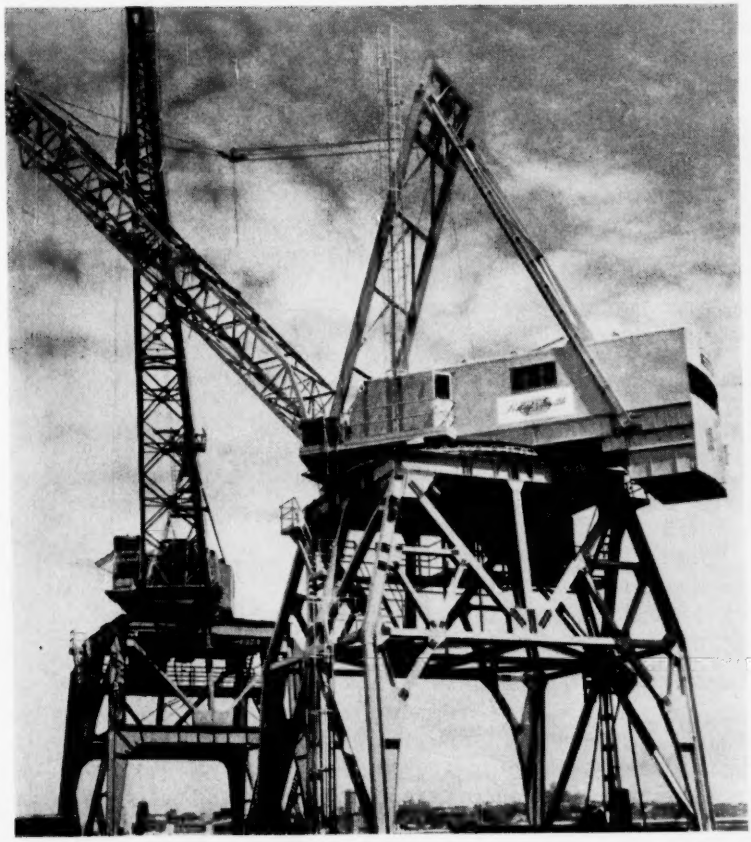
## Light Industry Thrives

Most of the major industrial classifications are represented by at least one sizeable firm. Apart from aircraft, food products lead in employment with 8,600 in April 1960, but transportation equipment other than aircraft are close behind with 6,600, and then come lumber and wood products with 5,500 and fabricated metals with 4,700.

Leading food products manufacturers include Armour, Hormel and Cudahy in meats; Carna-




American-Marietta's new building houses research into resins and glues needed in the plywood industry, one of the major consumers of the vast store of Pacific Northwestern timber.



The new 50-ton level-luffing gantry crane in process of installation in the foreground was put into service in July, joining its predecessor shown just behind. The Port of Seattle has invested millions of dollars to up-grade and expand the facilities available to shippers.

tion, Arden and Consolidated Dairy in dairy products; and Whiz Fish Products, San Juan Fishing and Packing, American Packing, National Fruit Canning, and Cedargreen Frozen Pack in canned and frozen food. Leading millers are Fisher Flouring Mills and Albers, while Sicks' is a major brewer; Vernell-Thompson and Imperial are important confectioners.

The largest firm in the textile field is Bemis Bag, but the apparel field includes Block, Farwest Garments and Apparel, Inc., in men's clothing; Eclipse in women's clothing; and Sportcaster in both lines. Another firm in this field is Seattle Quilt.

In the lumber field, Simpson Logging, Weyerhaeuser, Elliott Bay Lumber and U.S. Plywood are leading makers of plywood, while these and Seattle Cedar, Nettleton, and Seaboard, have large sawmills. Tyee Lumber is important for millwork and West Coast Wood Preserving is a leader in that field.

Englander, Craftmaster, and Lynch are the three leading furniture firms.

Fiberboard Products, Simpson Logging, American Can, Container Corporation, Bemis Bag, and Pacific Waxed Paper head the list of paper manufacturers. Cello Bag is a maker and printer of cellophane bags.

Leaders in the printing field include the two newspapers, the Post-Intelligencer and the Times, and the Craftsman Press, a commercial printer and lithographer.

Chemicals are dominated by American-Marietta, Monsanto, and Reichhold, all of whom make glue for the plywood industry and various plastics materials as well. Linde Air Products, Air Reduction Pacific, Preservative Paint, and National Lead are leaders in other chemicals lines.

Petroleum products are represented by Union Oil's asphalt plant.

Leather and related products makers include Skyway Luggage and Currin Greene Shoe Manufacturing.

Seattle has three major cement producers — Lone Star, Ideal and Permanente, while Gladding, McBean and Company are leaders in clay products. Penberthy Instrument Company is a maker of leaded glass marketed all over the country.

## Metal Goods Well Represented

The steel industry is already well established in Seattle and is primarily market-oriented, since there are no large stocks of local raw materials. The leader is Bethlehem Pacific Coast, which not long ago installed two large electric furnaces to supplement existing facilities. It depends mainly on scrap.

Pacific Car and Foundry has the largest foundry operation, but other sizeable foundries and forgings plants include Olympic Foundry, Washington Iron Works and Isaacson Iron Works. Colotrym is a leader in aluminum rolling.

Metal fabricators are numerous. Apart from Bethlehem, the chief makers of structural steel are Puget Sound Bridge and Dredging and Isaacson; Sheet-metal and boiler shop firms include Northwest Metal Products and Hydraulic Supply. The two tinware firms are American Can and Continental Can, while Fentron extrudes aluminum and makes metal doors and trim, and Disston turns out saws.

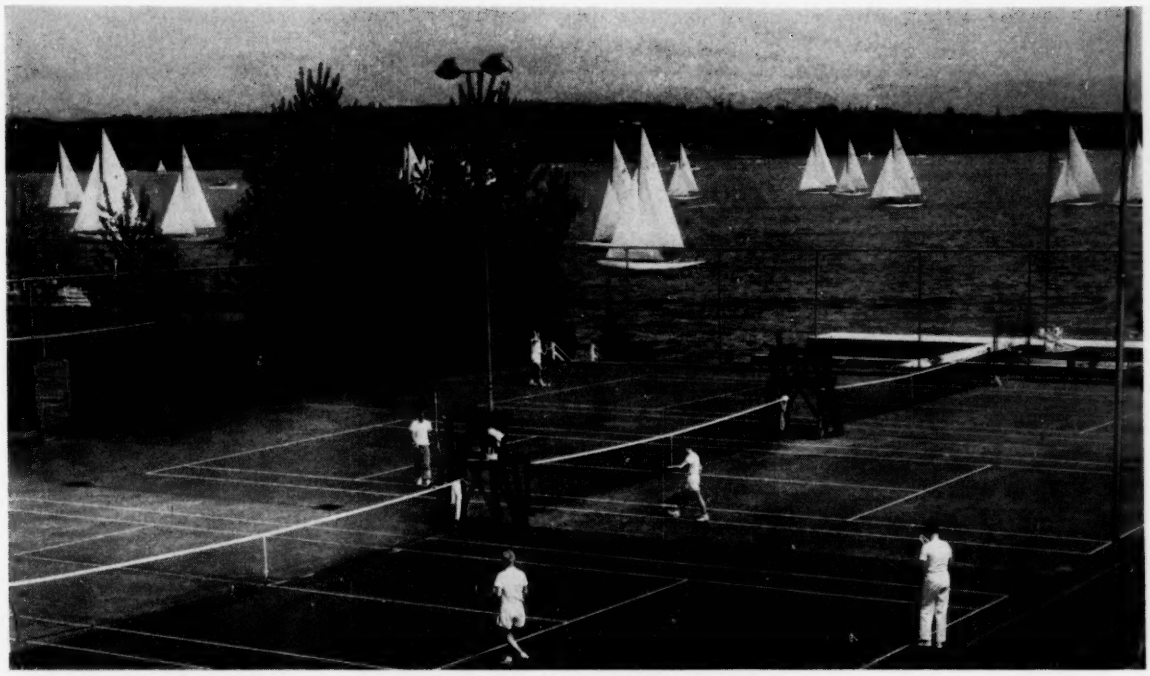
The machinery field has a number of specialties appropriate to the area. Wood-working machinery is turned out by Pacific Car and Foundry and Stetson Ross Machine; paper machinery by Washington Iron Works; and food machinery by Sweden Freezer. Pumps and compressors are the specialty of Pacific Marine Supply and mechanical power transmission equipment is produced by Western Gear Works. Heating equipment has a number of representatives, such as Northwest Metal Products, F. S. Lang, Abco Water Heater and National Steel Construction. The last-name firm, making electric water heaters, is one of the few Seattle manufacturers with national distribution. In the electrical field are Westinghouse, United Control, and Coates Electrical, which make electrical control apparatus.

In the transportation field, Boeing is of course dominant. Shipbuilding, however, preceded aircraft as Seattle's great defense industry. Between crises it normally tapers off to fairly low levels and is more concerned with repairs than new construction. Leaders in the field are Todd Shipyards, Puget Sound Bridge and Dredging, Seattle Shipbuilding and Drydock, and Lake Union Drydock.

Puget Sound Bridge and Dredging also makes railroad cars, and the motor vehicles field is represented by Kenworth Motor Truck and Fruehauf Trailer.

## Duwamish Means Industry

The frequent references to the Duwamish are easy to understand, once you see it. Since much of Seattle is hilly, the broad valley through the southern part of the city, opening out on the inner end of Elliott Bay, attracted early interest as an



Tennis enthusiasts can pause between sets at the Seattle Tennis Club to check on the progress of a sailing race on Lake Washington. A day too hot for tennis is rare indeed, as July maxima are seldom out of the 80's.

Every August Seattle celebrates its week-long Seafair, complete with a parade, outdoor spectacles, every form of aquatic racing, and a grand ball. No August doldrums for retailers out here.

industrial site. Already by 1895, work began on filling and draining the tidal flats surrounding the entrance of the Duwamish into Elliott Bay. By 1912 the present Harbor Island and the East and West Waterways surrounding it had taken shape.

In 1917 the Cedar River's outlet into the Duwamish was closed off and the river was diverted into Lake Washington, which in turn was diverted into the outlet crossing the northern part of the city. This greatly reduced flooding and silting on the Duwamish, and made it possible to straighten and deepen the channel six miles inland. The existing waterway is 15 feet deep and 150 feet wide for the upper two miles and progressively wider and deeper downstream; the last mile, traversing the West Waterway, is 34 feet deep and 750 feet wide.

The low, flat land with a navigable waterway confined in straight banks served as a magnet for Seattle industry and now contains the great majority of manufacturing employment in the area, including all of Boeing's plants in Seattle.

Two projects are now being considered to add to the amount of prime industrial land. One is to extend navigation upstream on the Duwamish and its only remaining headstream, the Green River. The other is to control floods in the Green River valley by a dam on its upper course. A proposal to combine these two projects under the auspieces of the Port of Seattle, acting under the Urban Renewal Act, has been struck down by the Washington courts because it would involve condemnation of private agricultural holdings outside the Seattle city limits.

Although the decision held up the navigation improvements, the flood-control scheme has gone ahead, and the Hanson dam at Eagle Gorge on the Green River is to be completed in 1962. Meanwhile, most of the land that might be affected has been zoned for industry, and the process of assembling land parcels is going forward. One such tract is the 13-acre Oxbow Industrial District offered by Lambuth, Sill and Company in the Georgetown area about a mile inside the city limits. There can be little doubt that the Duwamish and lower Green River valley offers the most attractive sites for industry in the area and that ways will be found to make them still more attractive.

## Lake Union Builds Boats

Entirely different is the other industrial area of the city, surrounding the present outlet of Lake Washington across the northern part of the city. The waterway is connected with Puget Sound through the Chittenden Locks, which have a 22-foot drop. They should be carefully avoided by chance passersby in a hurry, as the operation of the locks is endlessly fascinating and there is laways one more boat that you must see going through.

This area must surely live up to its boast — the fresh-water boat capital of the world. Seattle-ites seem to go for anything that floats, and there is an amazing variety of boats, marine accessories, fishing equipment, water skiing and skin-diving equipment and what-have-you being made or sold or in use along Lake Union and elsewhere along the waterway. Add to this seafood restaurants, nautical attire of all degrees of formality and the inevitable would-be Winslow Homers with their easels and you have Provincetown on a large scale. Even to the theater, as the University of Washington, which rises on a hill over this area, has a showboat tied up alongside.

In early August the water mania reaches its height in an annual celebration known as the Seafair, which features hydroplane races on Lake Washington along with most other known forms of water contests. They usually manage to have at least one boat load of foreign naval cadets on hand to add international flavor.

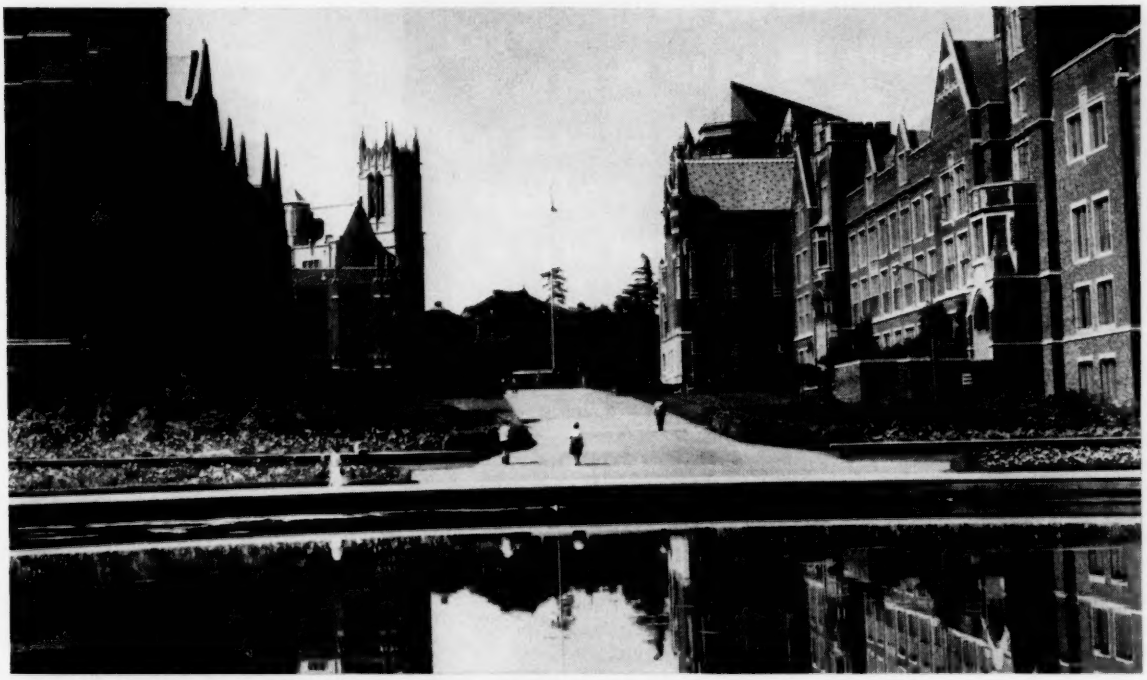
## The Lively Arts

Seattle is definitely metropolitan — and cosmopolitan — in its cultural and recreational opportunities. The ties with the Orient show up in the remarkable assemblage of Far Eastern art in the Seattle Art Museum, as well as in the marked Japanese influence on recent domestic architecture and the excellent sukiyaki, Pekin duck, or curry dishes available in restaurants.

The Scandinavians are here in force, as befits a great lumbering and shipping center; they contribute much to the musical life of the city, notably to the symphony, and are of course responsible for the prevalence of smorgasbord.

The Canadians here are rather more British than in the Middle West — it is well known that British Columbia is notably so — and they occasionally stage an informal version of cricket during the summer and some very brisk curling in the winter.

The University of Washington serves as the main intellectual rallying ground, with frequent lectures and concerts; it is also the chief purveyor of drama to the city, with a theater in the round and a conventional theater in addition to the showboat already mentioned. Its Huskies are not unknown in football and crew racing.



The main axis of the University of Washington campus is aimed south-south-east to provide a view—in the opposite direction from this—of Mount Rainier. Among the buildings shown here are the Physics Building and the Library, in the right foreground and background, respectively. The campus fronts on an arm of Lake Washington and football fans often come to the games in boats.

Triple A Coast League baseball, basketball at the University of Washington and Seattle University and the Seattle Americans of the Western Hockey League all have ardent fans in the city.

Golf and tennis are possible twelve months of the year in Seattle, and for the adventurous, skiing as well. Mount Rainier is a real challenge to the skill of mountaineers and is accessible only to them, as it has not been desecrated by a road to the summit. Its glaciers, while not on an Alaskan scale, are the most pretentious south of the 49th parallel.

## Research Potential

The University of Washington, with a faculty of 1,000 and a student body of 16,000, was ranked by the National Science Foundation as one of the thirty leading American institutions for its doctoral training. Its square-mile campus has an engineering-science grouping of seven buildings including a cyclotron. Other facilities in Seattle include laboratories devoted to research in cosmic rays and radiation biology, an arboretum containing plants from all over the world, a fisheries research institute, and a recently acquired tract used by the College of Engineering for radio propagation studies. There is also a well-established Bureau of Business Research.

Seattle University, a Jesuit center elevated to university status in 1948, operates a Cooperative Engineering Program with the Puget Sound Naval Shipyard and has graduate programs in electrical and mechanical engineering with Boeing.

The city's other four-year college is the Methodist-supported Seattle Pacific College, devoted primarily to liberal arts.

Companies engaged in extensive research operations on their own include most obviously Boeing, which has one of the largest technical staffs in the country. The cutback in airframes has if anything strengthened its research program as it seeks to extend its capabilities in the missile field. Another local firm heavily engaged in research is Simpson Logging, which is constantly seeking out new applications for wood and new ways to make use of waste products.

## Business Climate Favorable

Seattle is never satisfied with things as they are and is always looking for ways to improve its position. The interesting thing about the city is that business leaders are in the forefront of civic betterment organizations and show no signs of

Seattle City Light's headquarters downtown has been completely altered by the addition of seven additional stories to the original two, and has joined the company of distinguished modern buildings in the central business district. A notable feature of the foyer is the mosaic mural depicting the history of lighting from ancient times.

abdicating leadership in such matter to academic and labor groups, as is the case is some cities.

Outstanding in this respect has been the support given to the City Planning Commission in its work on zoning and its proposals for rehabilitation of the central business district. In the latter case, the downtown businessmen, acting through the Central Association of Seattle, have joined with the city government in issuing a policy statement entitled "Planning the Future of Seattle's Central Area," which contains agreed-on general principles within which detailed plans will be worked out.

The most dramatic visual evidence of civic progress is the bold new two-level expressway running through the downtown area and extending several miles southward into the Duwamish Valley. Still more dramatic will be the exciting new architecture of the Century 21 Exposition. When the exposition is over, many of the structures will remain as permanent additions to a new civic center.

As in most expanding metropolitan areas there is a certain amount of friction between the central city and the rapidly growing suburbs, but a major step forward has been taken. Voters in a 220-square-mile area have approved a proposal to set up a Metropolitan Council, to deal initially with the problem of sewage disposal. First-stage construction is estimated to cost $80 million, to be financed by revenue bonds.

This special report on industrial location factors in Seattle and portions of the surrounding territory deals with the service area of the Seattle Department of Lighting, under whose auspices the study was conducted. Reprints are available from Arthur F. Turner, Area Development Manager, City Light Building, 1015 Third Ave., Seattle 4, Washington.

## Who Has the Data?

Within the municipal government, industrial development activity centers in the Department of Lighting, generally referred to as City Light. Dr. Paul J. Raver is the Superintendent and Arthur F. Turner is Area Development Manager. Going around Seattle with Art Turner is like being in a small town as he knows practiclaly every second person you pass on the streets. This, it will be recognized, is no small advantage in getting the information you need quickly.

The Seattle Area Industrial Council serves as the research adjunct of the Seattle Chamber of Commerce, as well as the body most directly concerned with the city's over-all business climate. Its Managing Director is Denney Givens, and the current President is a prominent lawyer, Wheeler Grey, who is President-Elect of the chamber. SAIC has an excellent Handbook on the area and also puts out monographs.

The Port of Seattle and the four railroads serving the city are prime sources of information on transportation facilities and on industrial sites served by those facilities.

INDUSTRIAL DEVELOPMENT MANUFACTURERS RECORD

# MANUFACTURERS RECORD

THE INTERNATIONAL SUMMARY OF PLANT LOCATION NEWS ESTABLISHED 1882 VOLUME 129 NUMBER 10

*By Donald V. Quinn*

OLD HARBOUR, JAMAICA. A 38-acre site has been selected as location for the Ludlow Corporation's $4 million jute rug backing mill. The plant will be operated by Textile Manufacturers Ltd., a wholly-owned Ludlow subsidiary. Ludlow is one of the world's largest producers of jute products. Construction of the new plant will begin toward the end of September. It is scheduled for completion in June, 1961.

Preliminary plant plans call for reinforced concrete construction to a design which will permit eventual doubling of the facility as expansion becomes necessary. Initially the 150,000-square-foot-plus plant will employ some 500 Jamaicans.

LOUISVILLE, KENTUCKY. H. W. Lay & Company, Inc., one of the nation's leading manufacturers of potato chips and other snack foods, has announced plans to build here a new $500,000 manufacturing and distribution plant. The plant, which will serve Kentucky, Indiana, southern Illinois, and part of West Virginia, will be constructed on Crums Lane, adjoining the Illinois-Central Railroad, where the company has purchased a 10-acre tract of land.

H. W. Lay, president of the firm, said engineering plans for the new structure are now underway and construction will start as soon as they are completed. He said the new plant should be in operation by December, 1961. Approximately 125 persons, including members of Lay's sales organization will be employed at the new facility which will have about 35,000 square feet of space.

ELK GROVE VILLAGE, ILLINOIS. Sola Electric Company, a leading manufacturer of electrical and electronic products and components, announced that it expects to begin moving all operations from Chicago to suburban Elk Grove Village. Sola is a divisions of Basic Products Corporation.

The new plant, which provides approximately 200,000 square feet of floor space, was built at a cost of nearly $3 million. It is located on a 20-acre tract. By doubling the floor space presently occupied, Anthony von Wening, president, said the new plant would enable the Dola Division to strengthen its position in the vital industries it serves. Because of the firm's rapid growth, more than 200 new employees will be needed before the end of the year, and it is anticipated that employment will reach 800 this year and that the 1,000-mark may be reached in less than two years. The firm's major product lines are constant voltage transformers, fluorescent lighting ballasts, mercury vapor lamp transformers and direct current power supplies.

FORESTVILLE, CALIFORNIA. Purchase of a 25,000 square foot manufacturing plant was announced by W. W. Wahlgren, president of Electro Engineering Works. This new facility will be used for expansion of the firms line of miniature encapsulated and resin-potted transformers for airborne, missile and electronics system application.

The plant will start operations with approximately 40 employees. It will function as an autonomous division. Robert Brunham has been appointed manager of the Forestville division.

PLAINVIEW, NEW YORK. Veeco Vacuum Corporation, manufacturers of leak detection and high vacuum equipment will occupy an 84,000-square-foot plant, presently under construction, which will enable the company to increase its present production capacity about 60 per cent. The modern fireproof brick, steel, concrete and glass structure is situated on a 10-acre site which provides ample space for future expansion. A large classroom for training employees and users of company products is also part of the sprawling building. A research and development laboratory will occupy 6,000 square feet and have its own model shop and brazing room. Official dedication of the plant is expected to take place in the fall.

WICHITA, KANSAS. The world's largest exclusive manufacturer and designer of hotel and motel furnishings will establish expanded operations with an initial employment force of 500 workers. Duo-Bed Corpporation has purchased a 193,000-square-foot plant at 1812 West Second, which will undergo extensive renovation immediately in preparation for operations to begin in January. The total capital investment in plant facilities and new equipment is estimated at $2 million. Elliott Frey is the founder and president.

# NEW PLANTS

The following is a summary of major industrial plants in the United States, Canada, and foreign countries, reported to INDUSTRIAL DEVELOPMENT during the month of July, 1960, by industries and industrial development organizations.

Number of employees is indicated by the code: A(Under 25); B(25-100); C(100-250); D(250-1,000); and E(over 1,000).

### ALABAMA

**Andalusia** — Briggs Mfg. Co.; Wooden wheel tops. Plans announced. (B)

**Butler** — Vanity Fair Mills; Fine lingerie. Est. date of Constr., 1960. $350,000.

### ALASKA

No Plants Reported.

### ARIZONA

**Show Low** — Southwest Forest Industries; Paper pulp. Under Constr. $32 million. (D)

### ARKANSAS

**Cave City** — Capital Shirt Co.; Donald Cooper, Pres. Garments. Plans announced. $400,000 — 500,000. (D)

**Lake Village** — Brown Century Corp.; Men's underwear. Under Constr. $350,000.

**Malvern** — Acme Brick Co.; Neill Boldrick, Pres. Common and face brick and building products. Plans announced. $500,000.

**Mariana** — Lee Mfg. Co., (Div. of Douglas & Lomason Co.) Ronald Boccarossa, Plant Mgr. Automobile seat frames. In Oper. 60,000 Sq. Ft. (B)

**Stuttgart** — Stuttgart Footwear Corp.; (Subs. of Fashion Footwear Inc.) James Wilson, Plant Mgr. Slippers. In Oper. $365,000. 40,000 Sq. Ft. (C)

### CALIFORNIA

**Anaheim** — North American Aviation Inc., (Autonetics, Div.) John R. Moore, Pres. La Palma Ave. & Anaheim Rd. Multi-purpose radars, armament control systems, autopilots, automatic landing systems, navigation bombing systems and controls for boost-glide weapon systems, interplanetary vehicles and satellites. Under Const. 80-acre site. 400,000 Sq. Ft. (E)

**Davis** — Irving Goldfedder, Exec. V. Pres. Tomato processing. Under Constr. $1 million. 300,000 Sq. Ft.

**Forestville** — Electro Engineering Works; Wallac W. Wahlgren, Pres. Miniature encapsulated and resin-potted transformers for airborne, missile and electronics systems. In Oper. 24,000 Sq. Ft. $500,000. (B)

**Fresno** — Fruehauf Trailer Co., R. G. Lowrey, Br. Mgr. So. East Ave. Trailers. Plans announced. $250,000. 4½-acre site.

**Fresno** — D. Papagni Fruit Co.; Copper and Willow Ave. Fruit packing. Est. date of Oper., Aug. 1960. 20,000 Sq. Ft.

**Garden Grove** — Western Tablet & Stationery Co.; R. W. Daubenspeck, Gen. Mgr. Lampson Ave. Stationery. Under Constr. 10-acre site. 250,000 Sq. Ft.

**Los Angeles** — Brown-Saltman; Percy Solotoy, Pres. 150th St. and Figueroa. Furniture. Plans announced. $1 million. 8½-acre site. 80,000 Sq. Ft.

**Los Angeles** — Ferro Corp.; (Refractories Div.) Refractory specialty items. Plans announced. $300,000.

**Richmond** — California Peanut Co., Harold Siner, V. Pres. & Gen. Mgr. Ohio Ave. Candy. Est. date of Constr. Early 1961. $500,000. 3-acre site.

### COLORADO

**Denver** — Fibersheen, Inc.; Hamilton Gregg, Pres. 1200 Lawrence St. Fiberglass plumbing fixtures. In Oper. 25,000 Sq. Ft. (B)

**Pueblo** — General Aeromation, Inc.; Henry J. Wiebe, Pres. Research, planning and test center for jet aircraft handling equipment, including cargo handling devices and ground electronic equipment. Plans announced. 15,000 Sq. Ft. (A)

**Pueblo** — The Star-Journal Publishing Co.; Frank S. Hoag, Jr., Publisher and Pres. 800 W. 6th St. Newspaper publishing. Est. date of Oper., Jan. 1961. 40,000 Sq. Ft. $700,000. (C)

### CONNECTICUT

**Cheshire** — Waterbury Farrel Foundry and Machine Co.; Metalworking machinery. Under Constr. 300,000 Sq. Ft. $1.9 million.

**Farmington** — Connecticut Spring Co.; Coil springs, wire forms. Plans announced. 70,000 Sq. Ft.

### DELAWARE

**Newark** — Avon Products, Inc.; Ralph C. Madden, Gen. Mgr. Rt. 273. Comestics. In Oper. 47-acre site. 178,000 Sq. Ft. $2 million. (C)

### DISTRICT OF COLUMBIA

No Plants Reported.

### FLORIDA

**Ft. Lauderdale** — Savoy Electronics; Rex E. Basset, Jr., Offl. Quartz crystals for radio communications. In Oper. 10,000 Sq. Ft. (B)

**Ft. Lauderdale** — Williamson Rock & Sand Corp.; Frank M. Williamson, Pres. Road rock, stabilizer material, foundation fill and general fill material. Est. date of Oper., 1960. (B)

**Miami** — Bertram Yacht Co.; Richard H. Bertram, Pres. Fiberglass hull boats. Est. date of Oper., Jan. 1961. (B)

**Miami** — Florida Shoe Corp.; Noel Rabinowitch, Pres. Men's shoes. In Oper. (B)

**St. Petersburg** — Henefelt Precision Mfg. Co.; William Henefelt, Owner. Brass nuts. In Oper. (B)

**Tampa** — American Concrete and Crosstie; Douglas P. Cone, Pres. Prestressed concrete railroad crossties. In Oper. 5-acre site. (B)

**Tampa** — Vol T. Blacknall Co.; T. F. Randolph, Pres. 6235 S. Manhattan. Carpets. Under Constr. Est. date of Oper., Dec. 1960. 11,000 Sq. Ft. (A)

**Tampa** — Hart Industries; Ralph Smith, Plant Mgr. Pre-engineered motel units. In Oper. 45,000 Sq.-Ft.

### GEORGIA

**Decatur** — National Casket Company, Lawrence Moore, V. Pres. DeKalb Industrial Way. Caskets. Plans announced. 21,600 Sq. Ft. (B)

### HAWAII

No Plants Reported.

### IDAHO

**Boise** — Pacific Intermountain Securities; Potato processing. Plans announced. 55-acre site. $1.5 million. (D)

**Coeur d'Alene** — Diamond-National Corp.; Lumber mill. Plans announced. (B)

**Rockford** — Modern Mills, Inc.; Feed processing. Plans announced. $250,000.

### THE TOP TEN

On the basis of the number of significant new plants reported in INDUSTRIAL DEVELOPMENT during the six month period ended August, 1960, here are the leading states in industrial expansion and the number of plants reported for each:

| | | |
|---|---|---|
| 1. | FLORIDA | 100 |
| 2. | TEXAS | 94 |
| 3. | OHIO | 87 |
| 4. | PENNSYLVANIA | 77 |
| 5. | ILLINOIS | 64 |
| 6. | CALIFORNIA | 46 |
| 7. | MASSACHUSETTS (Tied) | 40 |
| 8. | PUERTO RICO (Tied) | 40 |
| 9. | MISSOURI | 39 |
| 10. | MISSISSIPPI | 38 |

### ILLINOIS

**Chicago** — Allen-Bradley Co.; Cabrini and Desplaines Sts. Electrical and electronic components. Under Constr. 11,000-Sq. Ft.

**Chicago** — Air Products, Inc.; 12721 S. Wentworth Ave. Low temperature processing apparatus for the production of oxygen, nitrogen, argon, and liquid air. Under Const. 11,000 Sq. Ft.

**Chicago** — Dayanite Corp.; 211 W. Locust St. Job shop typesetting. Under Constr. 12,000 Sq. Ft.

**Chicago** — Joal Mfg. Co., Inc.; 6437 South State St. Wrought iron furniture and accessories. In Oper. 112,000-Sq. Ft. site. 70,000-Sq. Ft. Bldg.

**Chicago** — Logan Square Typographers, Inc.; 901 West Monroe Street. Job shop typesetting. Under Constr. 24,000 Sq. Ft.

**Chicago** — Morgan Sash and Door Co., 2287 S. Blue Island Ave. Wooden sash and door products. Under Constr. 200,000 Sq. Ft.

**Chicago** — Tomar Co., Inc.; 801 N. Wolcott St. Metal Christmas Trees. In Oper. 20,000 Sq. Ft.

**Chicago Heights** — Seaway Bridge & Steel Corp.; Steel. Under Constr. 56,000 Sq. Ft. 30-acre site.

**Cicero** — Harris Steel Co.; 1223 S. 55th Court. Warehousing and processing of steel. In Oper. 40,000 Sq. Ft.

**Decatur** — Electric Autolite; Light automotive and industrial electric parts. Plans announced. $6-7 million. 80-acre site.

**Des Plaines** — A. J. Gerrard & Co.; 400 E. Touhy. Steel strapping and supplies. In Oper. 80,000 Sq. Ft.

**Des Plaines** — Symons Clamp & Mfg. Co.; 300 E. Touhy Ave. Concrete construction accessories. Under Constr. 10,000 Sq. Ft.

**Elk Grove Village** — Sola Electric Co.; (Div. of Basic Products Corp.) Anthony von Wenning, Pres. Highway 83 (Busse Ave). and Lunt Ave. Electrical and electronic products and components. Est. date of Oper., Oct. 1960. 200,000 Sq. Ft. 20-acre site. $3 million. (C)

**Flora** — Sparton Mgr. Co.; (Subs. of Sparton Corp.) John J. Smith, Pres. Commercial electronics products, stamped metal parts and automotive accessories. In Oper. 62,000 Sq. Ft.

**Harvey** — Joliet 7 Up Bottling Company; 153rd and Dixie Highway. Soft drink beverages. Under Constr. 30,000 Sq. Ft.

**Morton Grove** — Diebel Die and Mgr. Co.; Precision stampings, machinery, production of prototypes and heat treating. Under Constr. 53,000 Sq. Ft.

**Mundelein** — Decorel Products; Light architectural millwork. Under Costr. 100,000 Sq. Ft.

**Rochelle** — Swift & Co.; Meat packing — process cattle and hogs, prepare smoked meats such as hams, bacon, and a wide variety of sausages. Under Constr. $5 million. (D)

**Rolling Meadows** — Master Metal Strip Services, Inc.; Weather stripping. Under Constr. 29,000 Sq. Ft.

**Rolling Meadows** — Spotnails, Inc.; Portable nailing, stapling, and sash pinning machines and associated fasteners. Under Constr. 70,000 Sq. Ft.

**Schiller Park** — Electro-Netic, Inc.; 9535 River Street. Metal laminations for electronics. In Oper. 18,000 Sq. Ft.

**Skokie** — W. M. Welch Mfg. Co.; Linder and Touhy Ave. Laboratory equipment and apparatus. Under Constr. 210,000 Sq. Ft.

### INDIANA

**Lafayette** — Lafayette Grain Terminal; Grain storage and merchandising terminal. Plans announced. $800,000.

**LaGrange** — Motor Wheel Corp.; M. F. Cotes, Pres., Gen. Mgr. Heating equipment and air conditioners for mobile and small homes. Est. date of Oper., Jan. 1961. 120,000 Sq. Ft. $600,000-700,000. (C)

**Seymour** — Seymour Laminating Corp.; D. Billings Swain, Pres. Oak flooring squares. Under Constr. Est. date of Oper., Sept. 1960. $300,000.

### IOWA

**Burlington** — Campbell's Chain Co.; T. Gray, V. Pres. Industrial and automotive chain. Est. date of Oper., Fall, 1960. 15,000 Sq. Ft.

**Cedar Falls** — H.& H. Machine Tool Co.; Robert T. Hipple, Pres. Machine tools. Est. date of Oper., Sept. 1960. (B)

**Columbus Junction** — Rath Packing Co., J. Gibson, Offl. Pork processing. Est. date of Oper., June 1961. 30,000 Sq. Ft. 126-acre site. $900,000. (B)

**Denison** — Iowa Beef Packers; A. D. Anderson, V. Pres. Dressed Beef. Est. date of Oper., June 1961. $1.175 million. (C)

**Red Oak** — Farmers Mercantile Co.; Feed mill. Est. date of Oper., Jan. 1961. (B)

### KANSAS

**Kansas City** — Colgate-Palmolive Co.; Toilet articles — warehouse. Plans announced. 17,000 Sq. Ft.

**Topeka** — Pepsi-Cola Bottling Co.; Soft drinks. Under Constr. Est. date of Oper., Oct. 1960. $500,000.

**Topeka** — Stauffer Publications, Inc.; Newspaper publishing. Est. date of Oper., 1963. 100,000 Sq. Ft. $1-2 million.

**Wichita** — Duo-Bed Corp.; Elliott Frey, Pres. 1812 West Second. Hotel and motel furnishings. Est. date of Oper., Jan. 1961. 193,000 Sq. Ft. $2 million. (D)

### KENTUCKY

**Erlanger** — Kinnaird Body Works, Inc.; Beverage truck bodies. Est. date of Oper., Winter, 1960. (C)

**Lebanon** — Bourbon Cooperage Company; (Subs. of Glenmore Distilleries Company) Cooperage. Est. date of Oper., Late Fall, 1960. 15-acre site. (C)

**Louisa** — Kentucky Power Company; F. M. Baker, Gen. Mgr. Electric Power. Under Constr. Est. date of Oper., Late 1962. 336-acre site. $39 million. (B)

**Louisville** — American Rubber and Chemical Co.; Hans Stauffer, Pres. Synthetic rubber — Polybutadiene. Est. date of Oper., Sept. 1961. $10 million.

**Louisville** — H. W. Lay & Co., Inc.; Crums Lane. Potato chips and snack foods. Est. date of Oper., Dec. 1961. 10-acre site. 35,000 Sq. Ft. $500,000. (B)

**Owensboro** — General Electric Co.; Irvine D. Daniels, Gen. Mgr. High-temperature components — Thermionic integrated micromodules. Plans announced. 95-acre site. 148,000 Sq. Ft. $1.63 million.

### LOUISIANA

No Plants Reported.

### MAINE

**Easton** — F. H. Vahlsing Co., of Maine; Frozen french fried potatoes. Est. date of Oper., Late, 1960. 48,000 Sq. Ft. $1 million. (C)

### MARYLAND

**Cockeysville** — M. S. Willett, Inc.; S. H. McCaughey, Pres. Metal stamping, tools, jogs, etc. In Oper. 16,000 Sq. Ft.

**Pikesville** — Baltimore Spice Company; G. C. Brunn, Pres. Reisterstown Rd. Spices. In Oper. 5-acre site. 45,000 Sq. Ft.

### MASSACHUSETTS

**Agawam** — H. P. Hood & Sons, Inc.; Milk products. In Oper. 70,000 Sq. Ft. $1 million. (C)

**Boston** — Western Electric Supply Co., Inc.; Electrical products — Warehouse. Est. date of Oper., May 1961. 27,000 Sq. Ft. (C)

**Burlington** — Mitre Corp.; Research and Development. In Oper. 27,000 Sq. Ft. (C)

**Foxboro** — Foxboro Co.; Industrial instruments. Est. date of Oper., Nov. 1960. 70,000 Sq. Ft. $500,000. (C)

**Framingham** — Dennison Mgr. Co.; Paper boxes, etc. Est. date of Oper., March, 1961. 62,000 Sq. Ft. (C)

**Take these potent pills for industrial growth**

NWO ATTRACTIVE SITE IN NORTHWESTERN OHIO: Outstanding industrial location immediately available. Ideal for truck shippers — site is 3 miles from the great Ohio Turnpike. The Port of Toledo, natural western terminus of the St. Lawrence Seaway and the best on the Great Lakes, is only 35 miles away. Also at hand: Class I railroads, major airlines and motor freight carriers. Other advantages: favorable tax laws and labor supply of unique stability.

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Write for complete, confidential service to: R. E. Johnson, Industrial Development Department, The Toledo Edison Company, Toledo 4, Ohio. Phone CHerry 2-5731.

**THE TOLEDO EDISON CO.**

This advertisement contributed by The Toledo Edison Co. in the interests of area development.

**Marlboro** — Ideal Roller Mfg. Co.; Roller bearings, etc. Est. date of Oper., Sept. 1960. 20,000 Sq. Ft. (C)

**New Bedford** — Automotive parts. Est. date of Oper., Nov. 1960. 50,000 Sq. Ft. (C)

**Rockland** — Atlee Corp.; Electronic equipment. Est. date of Oper. Dec. 1960. 30,000 Sq. Ft. (C)

**Southwick** — Whip City Tool and Die Co.; Tools and dies. Est. date of Oper., Nov. 1960. (B)

**Woburn** — Slumberland Mattress Co.; Mattresses. Est. date of Oper., Oct. 1960. $400,000. (C)

### MICHIGAN

**Battle Creek** — Michigan Carton Co.; Dan Int-Hout, Jr., Pres. Cartons. Under Constr. $375,000. (D)

**Hudson** — Kroger Co.; Egg grading. In Oper. (C)

**St. Louis** — Michigan Chemical Co.; Theo Marvin, Pres. Organic and inorganic chemicals. Under Constr. $300,000. (D)

**Sturgis** — Glasspar Co.; Jerome Neiger, Pres. Glass fiber and reinforced plastic outboard motor boats. Plans announced. $400,000. 5-acre site. (B)

### MINNESOTA

**Faribault** — Mercury-Minnesota, Inc.; Charles F. Guthy, Gen. Mgr. Precision office machine parts and assemblies. In Oper. (B)

**Shakopee** — American-Wheaton Glass Corp.; Frank H. Wheaton, Jr., Pres. Bottles, and glass containers. Est. date of Oper., Jan. 1961. $5,6 million. 350,000 Sq. Ft. (D)

**Silver Bay** — Reserve Mining Co.; Robert T. Linney, Pres. Beneficiation of taconite. Under Constr. Est. date of Oper., 1963. $120 million. (D)

### MISSISSIPPI

**Booneville** — American Packing Co.; Meat processing Est. date of Oper., Early, 1961. $520,000. (B)

**Booneville** — American Seating Co., Church furniture. Plans announced. (C)

**Corinth** — Kellogg Mgr. Co.; (Subs. of International Telephone and Telegraph Co.) George A. Strichman, Pres. Pay telephones and electronic devices. Plans announced. 57-acre site. 82,000 Sq. Ft. (D)

**Hernando** — Hernando Products Corp.; Household mops and dusters. In Oper. 10,000 Sq. Ft. (A)

**Meridian** — W-L Molding Company; George R. Laure, Pres. Plastics molding — extrusion, and injection molding. Plans announced. (D)

**Tupelo** — Mansfield Tire and Rubber Co.; Tires. In Oper. $2 million .(C)

### MISSOURI

**Joplin** — Purkett Mfg. Co.; Commercial Laundry equipment. Est. date of Oper., Sept. 1960. 32,000 Sq. Ft. (A)

**Kansas City** — B. F. Ascher & Co., Pharmaceuticals. Plans announced. 10,000 Sq. Ft.

**Kansas City** — Charles E. Brown Printing Co.; William R. Brown, Pres. Business forms. Plans announced. 10,000 Sq. Ft.

**Kansas City** — Goldblatt Tool Co;. Phillip Goldblatt, Chmn. Hand tools. Est. date of Oper., Fall, 1960. 15,000 Sq. Ft. (A)

**Kansas City** — Nazarene Publishing House; Printing and publishing. Est. date of Oper., Fall, 1960. $2 million. 104,000 Sq. Ft.

**St. Joseph** — Continental Can Co. Inc.; General Lucius D. Clay, Chmn. Metal cans and other containers Est. date of Oper., July 1961. 30,000 Sq. Ft.

**St. Louis** — Color Metal Sign Co.; St. Clair Ave. and 31st St. Bakes enamel signs. Plans announced. 25,000 Sq. Ft. (B)

**St. Louis** — Devilbiss Co.; 1501 Fairview Ave. Paint spray equipment and industrial finishing systems. In Oper. 10,000 Sq. Ft.

**St. Louis** — Sun Chemical Corporation; (General Printing Ink Div.) 10200 Page Blvd. Printing ink. Plans announced. 20,000 Sq. Ft. $300,000. (B)

**St. Louis** — United States Rubber Co.; 8534 Page Ave. Rubber products. Under Constr. 50,000 Sq. Ft.

**Washington** — Mid-Continent Tab Card Co.; Wayne Eves, Pres. Tab cards for business machines. Est. date of Oper., Sept. 1960. 11,000 Sq. Ft. (A)

### MONTANA

No Plants Reported.

### NEBRASKA

**Lincoln** — Hy-Gain Products Mfg. Co.; Andy Andros, Offl. Cornhusker Hwy. Communications antennas. Plans announced. 25,000 Sq. Ft.

### NEVADA

No Plants Reported.

### NEW HAMPSHIRE

No Plants Reported.

### NEW JERSEY

**Metuchen** — National Can Corp.; Robert S. Solinsky, Chmn. of the Bd. Cans for fruits, vegetables, beer, dog food, motor oil, anti-freeze, insecticides, and other products. Est. date of Oper., Early 1961. 18-acre site. 200,000 Sq. Ft. (C)

### NEW MEXICO

No Plants Reported.

### NEW YORK

**Clarkstown** — St. Regis Paper Co.; Benton R. Cancell, Exec. V. Pres. Paper, plastics, packaging and forest products. Plans announced. $3 million. 60,000 Sq. Ft. 60-acre site.

**Plainview** — Ultrasonic Industries Inc.; Paul M. Platzman, Pres. Ultrasonic cleaning machines. Est. date of Oper., Early Fall, 1960. 18,000 Sq. Ft.

**Plainview** — Veeco Vacuum Corp.; Leak detection and high vacuum equipment. In Oper. 84,000 Sq. Ft. 10-acre site.

**Waterford** — General Electric Co.; Basic silicone intermediate chemicals. Plans announced. $3 million.

**Waverly** — Twin Coach Co.; William H. Cole, Pres. Aluminum trailer bodies, shipping containers. Plans announced. 48,000 Sq. Ft. (B)

### NORTH CAROLINA

**Concord** — Penn Rod Mfg. Co.; Boy's shirts and pants. Plans announced. (D)

**High Point** — Eastern Furniture Co.; S. C. Easter, Owner. 221 Ennis St. Upholstered furniture. In Oper. 10,000 Sq. Ft. (B)

**High Point** — Hendrix Batting Co.; T. R. Hendrix, Pres. 3055 Hamilton St. Cotton felt. In Oper. 18,500 Sq. Ft. (B)

**High Point** — Stylette Furniture Co.; W. T. Smoot, Owner. 302 W. Green St. Upholstered living room furniture. In Oper. (B)

**Morganton** — Morganton Finishing Co.; Dye and finish cloth (Synthetics) Plans announced. (C)

### NORTH DAKOTA

No Plants Reported.

## I. D. CALENDAR

**SEPTEMBER 12-16, 1960**

American Management Association, Fundamentals of financial management for the junior financial executive, Seminar #1279-01, Hotel Manhattan, New York City, New York. Reservations may be made through AMA, Inc., 1515 Broadway, Times Square, New York 36, New York.

**OCTOBER 9-12, 1960**

American Chamber of Commerce Executives Annual Meeting, Brown Hotel, Louisville, Kentucky. Arrangements being made by John R. Fraker, Executive Vice President.

**OCTOBER 10-11, 1960**

The 10th Annual Texas Industrial Development Conference, Memorial Student Center, Agricultural and Mechanical College, College Station, Texas.

**OCTOBER 19-21, 1960**

National Management Association, 37th Annual Convention, Dinkler-Plaza Hotel, Atlanta, Georgia. NMA Headquarters, 333 West First Street, Dayton 2, Ohio.

**OCTOBER 23-25, 1960**

Southern Industrial Development Council, Annual Meeting, Hotel-Motel Sam Peck, Little Rock, Arkansas. Arrangements and entertainment features are being made by Chief Host Everett Tucker, Jr., Industrial Development Co., 115 West Sixth Street, Little Rock, Arkansas.

**NOVEMBER 7-9, 1960**

Society of Industrial Realtors, 20th Annual Convention, Sheraton Hotel, Dallas, Texas. Arrangements are being handled by John M. Stemmons, Convention Chairman, Society of Industrial Relations, National Headquarters, 1300 Connecticut Avenue, Washington 6, D. C.

**DECEMBER 7-9, 1960**

National Association of Manufacturers' 65th Annual Congress of American Industry, Waldorf Astoria Hotel, New York City, New York.

**DECEMBER 12-16, 1960**

American Management Association, Fundamentals of financial management for the junior financial executive, Seminar #1279-02, The Hotel Astor, New York City, New York. Reservations may be made through AMA, Inc., 1515 Broadway, Times Square, New York 36, New York.

**MARCH 6-10, 1961**

American Management Association, Fundamentals of financial management for the junior financial executive, Seminar #1279-03, LaSalle Hotel, Chicago, Illinois. Reservations may be made through AMA, Inc., 1515 Broadway, Times Square, New York 36, New York.

**APRIL 9-11, 1961**

American Industrial Development Council, 36th Annual Conference, Sheraton-Dallas Hotel, Dallas, Tex.

**JUNE 26-30, 1961**

American Management Association, Fundamentals of financial management for the junior financial executive, Seminar #1279-91, AMA Academy, Saranac Lake, New York. Reservations being made through AMA, Inc., 1515 Broadway, Times Square, New York 36, New York.

### OHIO

**Alliance** — Summit Gear & Mfg. Co.; W. D. Harris, Pres. N. Rockhill Ave. Large gears and sprockets, bull and pinion gears. Under Constr. Est. date of Oper., Sept. 1960. 10-acre site 14,000 Sq. Ft. (B)

**Columbus** — Carter Steel and Fabrication Co.; Max Allen & Marvin Silverstein, Owners. Steel service center and structural fabrication plant. Plans announced. $1.2 million. 90,000 Sq. Ft.

**Dayton** — National Cash Register Co.; Robert S. Oelman, Pres. S. Main St. Cash registers. Est. date of Oper., Fall, 1961. Est. date of Constr. Fall, 1960. $1 million. 142,000 Sq. Ft.

**Dayton** — Neff Folding Box Company; Folding boxes. In Oper. 25,000 Sq. Ft.

**Lima** — Pipe Line Service Corp.; (Div. of American Steel foundries Co.) Pipe wrapping and coating. Plans announced. $1 million.

**Salem** — Nease Chemical Co., Inc.; Dr. Aubrey Nease, Offl. Intermediate organic chemicals for pharmaceutical, plastics use. Under Constr. 30-acre site. (B)

**Wellsville** — Freeport Sulphur Co.; Edward Cotter, Ass't. V. Pres. Liquid sulphur. Plans announced. 15-acre site. $1.25 million.

### OKLAHOMA

**Miami** — Ottawa Packing Co.; Leo Libbert, R. L. Hashhagan, and A. Z. Watters, Owners. Processing of cattle and hogs. Est. date of Oper., Sept. 1960. (B)

**Oklahoma City** — Frigiquip Corp.; Gene Byrd, Offl. Automobile air conditioners. Under Constr. $300,000. 60,400 Sq. Ft.

**Tulsa** — Burton-Rodgers, Inc.; 15th St. and 73rd E. Ave. Large operational training devices. Est. date of Oper., Late fall, 1960. 50,000 Sq. Ft. 10-acre site. (C)

**Tulsa** — Precision Products, Inc.; G. E. Nicholson, Pres. E. 15th St. Mechanical timers and detonating mechanisms for oil-well bombs, precision parts, including screw machine products, precision gears and metal stampings. Under Constr. Est. date of Oper., Jan. 1961. 40,000 Sq. Ft. $500,000. (C)

### OREGON

**Beaverton** — General Electric Co.; B. L. Heywood, N. W. Dist. Mgr. Electrical appliances — warehouse. Plans announced. $750,000. 55,000 Sq. Ft.

**Portland** — Golby Bag Co.; S. E. Third and Ankeny. Burlap, paper, plastic and mesh bags. Plans announced. 100,000 Sq. Ft. $500,000.

### PENNSYLVANIA

**Ashland** — Ashland Shirt Co.; Shirts. Est. date of Oper., Jan. 1961. (D)

**Clark Summit** — International Salt Co.; Salt products. Plans announced. $2 million. (C)

**Forest City** — Chagin, Inc.; Towels. Plans announced. $250,000. (A)

**Lake City** — Town Square Foods, Inc.; Frozen pies. Plans announced. 17,640 Sq. Ft. (A)

**Laureldale** — Western Electric Co.; Electronic devices. Plans announced. 290,000 Sq. Ft. $3.5 million. (E)

**Mars** — Treesdale Laboratories and Textile Processing Co.; Exothermic and eluxes, flameproofing chemicals. Est. date of Oper., Sept. 1960. $399,000.

**Meadowlands** — Rubber Rolls, Inc.; Rubber covered rolls and rubber lined pipe and fittings. Plans announced. $250,000. (B)

**Meadville** — Cyrogenics Corp.; Industrial valves. In Oper. $250,000. (B)

**Old Forge** — Elco Lamp and Shade, Inc.; Lamp shades. Plans announced. 25,000 Sq. Ft. (C)

**Peach Bottom** — Philadelphia Electric Co.; Robert E. Ginna, Pres. Atomic power. Est. date of Oper., Late 1963. $40 million.

**Philadelphia** — New York Metal Moudings, Inc.; Metal moulding. Plans announced. $300,000.

**Philadelphia** — Paper Mfg. Co.; Coated specialties. Est. date of Oper., Oct. 1960. $900,000. (B)

**Sunbury** — Pennsylvania Gear, Inc.; Gear reduction units. Plans announced. $250,000. (B)

**Warrington** — Metco Mfg. Co.; John L. Klaiss & Martin Kanter, Partners. Tools, dies, metal stamping, aircraft, automotive radio and electronic machinery. Under Constr. Est. date of Oper., Sept. 1960. 12,000 Sq. Ft. 10-acre site.

**Youngwood** — Westinghouse Electric Corp.; Semiconductors. Est. date of Oper., Fall, 1960. $900,000.

### PUERTO RICO

No Plants Reported.

### RHODE ISLAND

**Providence** — Rhode Island Welding Supply Co., Inc.; Welding supplies. Est. date of Constr., 1960. $350,000.

### SOUTH CAROLINA

**Irmo** — Allied Chemical Co.; Fine denier caprolan nylon. Under Constr. $35 million. 550,000 Sq. Ft. 500-acre site. (E)

**Columbia** — Sylvania Electric Products, Inc.; (Subs. of General Telephone and Electronics Corp.) Argus Camera Div. Clinton H. Harris, Pres. Platt Springs Rd. Y Watling Rd. 35mm cameras and 8mm movie cameras and projectors. Est. date of Oper., Fall, 1961. Est. date of Constr., Fall, 1960. 109,000 Sq. Ft. (C)

### SOUTH DAKOTA

No Plants Reported.

### TENNESSEE

**Chattanooga** — Nopco Chemical Co.; William Marshall, Plant Mgr. Polyether urethane foam. Plans announced. 100,000 Sq. Ft.

**Cookeville** — Adams Plastics Co.; Plastic football face guards, knee pads, thigh pads, chin straps and water ski belts. Plans announced. 5-acre site. 20,000 Sq. Ft. (B)

**Decaturville** — Decaturville Mfg. Co.; Women's sportswear. Plans announced. (B)

**Humboldt** — Wayne Knitting Mills; Hosiery. Plans announced. (D)

**Jackson** —Octagon Ventilator Co.; Commercial ventilators. Est. date of Oper., Early Fall, 1960. 15,000 Sq. Ft. (A)

**Lawrenceburg** — National Carbon Co.; (Div. of Union Carbide Corp.) Chemicals for missiles. Plans announced. (B)

**Loretto** — Myrna Mills; Men's sports shirts. Est. date of Oper., Jan. 1961. (D)

**Memphis** — Memphis Sash & Door Co.; Est. date of Oper., 1961. 5-acre site. 100,000 Sq. Ft. $500,000. (B)

**Mountain City** — Leco Mfg. Co.; Night wearing apparel. Plans announced. (B)

**Nashville** — Royal Crown Bottling Co.; Soft drink bottling. Plans announced. 64,000 Sq. Ft. $1 million.

**Old Hickory** — E. I. du Pont de Nemours & Co.; F. M. Acker, Mgr. Textile fibers laboratory. Est. date of Constr., Oct. 1960. Est. date of Oper., Early, 1961. (B)

**White Bluff** — General Industries Inc.; F. N. James, Pres. Vending machines. Est. date of Oper., Sept. 1960. 10,000 Sq. Ft. (B)

### TEXAS

**Arkansas Pass** — Texas King O-Crab Co.; Barney Sanders & Gene Webster, Offls. 147 Bigelow. Crab processing. In Oper. (B)

**Dallas** — Anderson Box Co., Inc.; R. E. Flint, Sales Mgr. 8301 Sovereign Row. Chick boxes, egg cases, dressed poultry boxes and allied products. In Oper. 10,200 Sq. Ft.


What does Michigan offer?

Yes, there's more of just about everything in dynamic Michigan. It's an area that deserves study if you're looking for new industrial locations. Consider:

**1. There are 1,000,000 skilled and semi-skilled workers here.**

**2. There are 40 million consumers within one night's truck haul of most Michigan plants.**

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If you would like confidential information on available industrial sites please contact our Industry Development Division, Detroit 26, Michigan.

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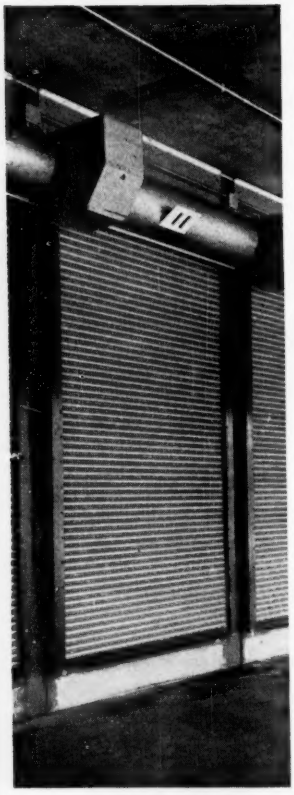
# *Kinnear* Motor Operated *Rolling Doors...*

*a feature of Theo. Hamm Brewing Company's*

# Automated Loading Dock



Here again, Kinnear Rolling Doors play a key role in *modern efficiency at its best!*

The 23 power-operated Kinnear Rolling Doors you see above are controlled independently from a master switch.

Conveyors ending just inside each door deliver pallets holding cases of beer to the loading dock. The door can then be opened by remote control. A fork truck picks up the pallets, travels onto dock levelers (at right, top photo) and loads the pallets on the waiting truck.

(Empty cases on pallets are returned to other conveyors through doorways installed higher above the dock level.)

By opening straight upward and coiling compactly over the doorway Kinnear Rolling Doors permit conveyors to come within *inches* of the door. Doors can be placed as close together as desired, with control switches at each door if preferred.

(Auxiliary chains, for door operation in case of power failure, are stored in the hood of each door.)

A rugged, all-metal curtain protects each opening when the Kinnear Rolling Door is closed — a positive barrier to trespassers, vandals, wind, and weather, *plus added protection against fire.*

Your needs may be vastly different; but *wherever you need* doors, you need the advantages of Kinnear Rolling Doors.

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**KINNEAR**
**ROLLING DOORS**
*Saving Ways in Doorways*


## NEW PLANTS

**Dallas** — Dallas Sheet Metal Works, Inc.; (Fabricators Div.) Food service equipment and machinery fabrication. In Oper. 28,000 Sq. Ft.

**Dallas** — Dearborn Stove Co.; Stoves. Plans announced. 200,000 Sq. Ft. $1.5 million.

**Dallas** — Delta Steel Bldg. Co.; W. T. Slaton, Pres. Design, out, and assembling of prefabricated steel bldgs. In Oper. 24000 Sq. Ft.

**Dallas** — ManorVac Distributors, Inc.; (Div. of General Vacuum Corp.) Herb Aldrich, V. Pres. Vacuum cleaning systems. Under Constr. 10,000 Sq. Ft.

**Dallas** — Well Made Novelty Co.; Davis R. Weisblat, Pres. North Lamar. Chair cushions, pillow, bedspreads, and related household accessories. Plans announced. 60,000 Sq. Ft.

**Falls City** — Susquehanna-Western, Inc.; Allen D. Gray, Pres. Uranium Processing. Est. date of Oper., Spring, 1961. $2 million.

**Houston** — Belle Products Co., Inc.; G. C. Golub, Pres. Grand and Nichols Sts. Specialty food items processing and packaging. Under Constr. 72,000 Sq. Ft. $500,000.

**Houston** — Carwin Co.; Robert G. Schmidt, Mfg. Miller Cutoff Rd. Isocyanites used in the production of drugs, adhesives, foams, and enamels. Under Constr. 30-acre site. $25 million. (B)

**Houston** — Lucky Lager Brewing Co.; Brewery. Plans announced. $7.775 million.

**Longview** — Dunaway Mfg. Co.; John Dunaway, Offl. Aluminum doors and windows. Plans announced. 34,000 Sq. Ft. 5½-acre site. (C)

**Lubbock** — Southwest Vermiculite Co.; Jack Lyall, Pres. Concrete aggregate and insulating material. Under Constr. Est. date of Oper., Sept. 1960. 10,000 Sq. Ft.

**Taylor** — Kerr-Ban Furniture Mfg. Co.; A. W. Caryer & J. V. McShane, Offls. Occasional tables. Est. date of Oper., Summer, 1960. 44,000 Sq. Ft. (B)

**Terrell** — Montag, Inc.; M. L. Weiss, Pres. Talty Rd. Paper school supplies and other paper products. Under Constr. 10-acre site. 30,000 Sq. Ft.

### UTAH

No Plants Reported.

### VERMONT

No Plants Reported.

### VIRGINIA

**Alexandria** — Cooke Engineering Co.; Nelson M. Cooke, Offl. 735 N. St. Asaph St. Electronic equipment — Telecommunications equipment. In Oper., 10,000 Sq. Ft. $250,000.

### WASHINGTON

**Tumwater** — Olympia Brewing Co.; Adolph D. Schmidt, Pres. Brewery. Under Constr. $452,660. (D)

### WEST VIRGINIA

No Plants Reported.

### WISCONSIN

No Plants Reported.

### WYOMING

**Green River** — Stauffer Chemical Co.; Soda ash. Under Constr. Est. date of Oper., Late 1962. $Multi-million. (D)

## CANADA

### ALBERTA

**Calgary** — Alsco Ltd.; 5505-4th St. SE. Aluminum Windows and doors. In Oper. 2½-acre site. 12,000 Sq. Ft. (A)

**Calgary** — Diversey Corp. (Canada) Ltd.; A. R. Dallas, Dist. Mgr. 5544-5th St. SE. Industrial chemicals, detergents and cleansers. In Oper. 2-acre site. 22,000 Sq. Ft. (A)

**Calgary** — Mid-States (Canada) Ltd.; (Subs. of Chance-Vought Indust. Inc.) Edmonton Trail. House trailers. In Oper. 3-acre site. 30,000 Sq. Ft. $250,000. (B)

*(Continued on page 96)*

DIRECTED BY
Richard Edmonds . 1882-1930
Frank Gould . . . . . 1930-1943
William Beury . . . . 1943-1955
McKinley Conway . . 1956

# MANUFACTURERS RECORD
## (IN REVIEW)

*"What Enriches Any Region Enriches The Nation"*

AUGUST 1886 (AS ABSTRACTED MORE THAN 70 YEARS LATER) BALTIMORE, MD.

### Statesmen-Politicians Oblivious

A contributor to Fair Trade, the organ of the protective party in Great Britain, quotes from the New York Herald the following paragraph:

It is said that several large cotton spinners of Great Britain are going to transfer their business to Pennsylvania, some taking their workpeople with them. This experiment has already been conducted on a small scale, and in individual cases, and always with success. It is becoming increasingly difficult to get English cotton goods into the United States on account of the heavy duties, which are to be increased under the new tariff bill. Therefore, it has occurred to many English manufacturers that it is expedient to execute a flank movement on the protectionists by setting up mills in their own country. Thus the American market may be secured, and the surplus goods may be exported to England free of duty.

Upon this text the following comments are made:

Now, English workingmen, look on this, and remember! It is not proposed to take you there – and if you do go of your own free will, you naturally enough in a very brief space of time become an alien to your native country. England with her free trade revenue tariff law cannot keep the foreign market even for her cotton goods, but the United States with her protective tariff law can attract the capital and the brains which will employ workmen over there to supply their two markets. And this is no solitary case. What can be done in cottons can and will be done in woolens and in silks, in steel rails and other iron goods, in tin plates and in earthenware. It is the migration of capital – for that is free, and goes where it listeth, welcome all over the world, to the detriment of the wage earning classes. And yet our statesmen and politicians look calmly on, oblivious of the volcano over which they are fiddling.

### Iron Displacing Wood

We are reminded by the presence in St. Louis, in convention, of our esteemed friends and trade cousins, the manufacturers of and dealers in lumber, that an interesting economic change is now in progress, involving the substitution of iron for many purposes in which lumber has been employed hitherto. Our friends in the lumber trade have the sagacity to perceive this tendency, and one of their excellent trade journals, represented in the present assembly, has already given space to certain observations of a leading Western lumber merchant, to the effect that a large falling off in the trade in white pine of late years is in part due to the extensive introduction of iron in many capacities where wood was formerly employed. This observant dealer cites in particular the use of iron window frames, wire netting in place of laths and tiles instead of wood for flooring. But the illustration of the change going on might be enlarged almost indefinitely. Our advertising columns from time to time present the claims of sheet iron for siding and roofing, cornice work, metallic ceilings, and kindred purposes connected with building; and the use of heavier iron on the form of girders, in the place of wooden joists, has become almost universal in the most costly buildings, while the substitution of frames made of iron instead of wood has become a question of expense rather than of adaptability. Experiments in the substitution of steel for wood are also in progress. Cheapness has opened new uses to iron and increased its consumption, while the converse is true of lumber – that its use has diminished in proportion to its advancing cost.

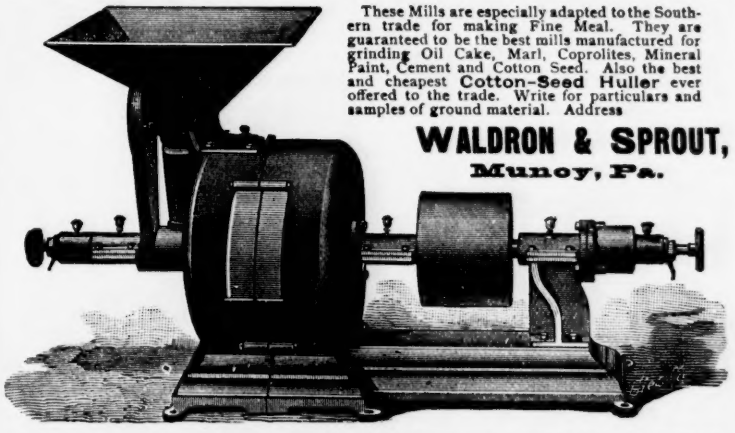
### Intercontinental Railroad

The intercontinental railroad proposition has been favorably received in Mexico, Central and South America. Advices from the American minister at Mexico state that that government has appointed Signor Leandro Hernandez its representative to the international commission. Ecuador indorses the project, and will appoint a commissioner. The Minister of Foreign Affairs of that republic, in an official communication to Secretary Blaine, says: "My government appreciates the importance of such a work, and is of the opinion that the South American republics will derive the greatest benefit from it."

### Canal Progress

Reports of the progress of the Nicaragua canal are most encouraging. The contrast presented between American endeavor in this enterprise and the notable De Lesseps failure is most marked. Recent advices are that the Nicaraguan Minister of Public Works, Senor Don J. F. Medina, has, on behalf of his government, congratulated Mr. Henry C. Hall, resident general manager of the Maritime Canal Co., that his company has more than fulfilled its contract in money expended and work accomplished. The company has now, by the terms of the concession, ten years in which to complete the canal. Two items in this report are worthy of special note. One is that there has not been a single death in the entire force of 1,500 employes from any febrile or enteric disorder. The other is that several million feet of lumber have already been received at San Juan del Norte from Atlantic and Gulf ports, and that other cargoes are arriving daily. This great maritime enterprise will not only continue to buy large quantities of lumber from Gulf mills during the progress of the work, but when it shall have been completed, the profitable markets of the Pacific coast, of South America, of the Sandwich Islands and of Eastern Asia, all of which are enormous consumers of Puget Sound lumber, will be open to the Gulf State mills.

**FRENCH BURR MILLS,**



These Mills are especially adapted to the Southern trade for making Fine Meal. They are guaranteed to be the best mills manufactured for grinding Oil Cake, Marl, Coprolites, Mineral Paint, Cement and Cotton Seed. Also the best and cheapest **Cotton-Seed Huller** ever offered to the trade. Write for particulars and samples of ground material. Address

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**Muncy, Pa.**

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## NEW PLANTS

*(Continued from page 94)*

**Edmonton** — Naugatuck Chemicals; 2-4-D, MCP pentachlorophenol. Est. date of Oper., 1961. 50-acre site. $1 million. (A)

**Fort Saskatchewan** — Dow Chemical Co. of Canada Ltd.; Ethanolamines. Est. date of Oper., 1961. 160-acre site. $3 million. (B)

### BRITISH COLUMBIA

**Port Alberni** — MacMillan Bloedel and Powell River Ltd.; Newsprint. Est. date of Oper., 1963. $24 million. (C)

### MANITOBA

### NEW BRUNSWICK

### NEWFOUNDLAND

### NOVA SCOTIA

No Plants Reported.

### ONTARIO

**Brampton** — Caprin Ltd.; Holtby Ave. Aluminum and plastic windows, curtain walls, rolling doors and jalousies, wood kitchen cabinets and window frames. Plans announced. 26,000 Sq. Ft.

**Etobicoke**—Old Cherry Hill Cheese House (Div. Pet Milk Co.), 417 Islington Ave. So. Cut and package cheese and other dairy products. In Oper. 1-acre site. 11,000 Sq. Ft.

**Scarborough**—David Brown-Foote Gears Ltd.; R. W. Johnson, Gen. Mgr., 26 Howden Rd. Mechanical power transmissions. In Oper. 15,000 Sq. Ft.

**Scarborough** — Helfrich Laboratories of Canada Ltd.; 44 Milne Ave. Cosmetic and other toilet articles. In Oper. 30,000 Sq. Ft.

**Toronto** — Burdick Metal Industrial Ltd.; 132 Brandon Ave. Wire and sheet metal products, silk-screen printing. In Oper. 1¼-acre site. 21,000 Sq. Ft.

**Toronto** — Hanes Hosiery Mills Co.; Rexdale Blvd. Seamless hosiery. Plans announced. 25,000 Sq. Ft. 20-acre site. (D)

**Toronto** — Impac Containers Ltd.; A. E. Basset, Gen. Mgr. Lesmill Rd. Disposable all-plastic hot-drink cups. In Oper. 14,000 Sq. Ft.

**Toronto** — Rotronic Corporation Ltd.; 12 Duchess St. Electrical components — Diflection yokes for television sets, radiosonde transmitters, and bimetallic switches. In Oper. 14,000 Sq. Ft.

### PRINCE EDWARD ISLAND

No Plants Reported.

### QUEBEC

**Contrecoeur** — Canadian Steel Ltd.; Steel. Under Constr. 1,000-acre site. $225 million.

### SASKATCHEWAN

No Plants Reported.

## FOREIGN

**Argentina** — Campana. Dalmine Sociedad Argentina para la Fabricacion de Tubos de Acero; Cold drawn seamless steel tubing. Plans announced. $1.8 million.

**Argentina** — San Lorenzo. Industrial Quimicas Argentinas Duperial, S. A.; Polyethylene. Plans announced. $16.1 million.

**Australia** — Melbourne. Hercules Powder Co.; (In association with A. C. Hatrick Pty., Ltd.) Rosin-Based emulsifiers and paper-making chemicals. Est. date of Oper,. 1961.

**Australia** — Melbourne. Metters-Clow Pty., Ltd.; Cast iron pressure pipe. Plans announced. $3 million.

**Bogota** — Columbia. B. F. Goodrich Chemical Co.; Harry B. Warner, Pres. Geon vinyl plastic materials. Est. date of Oper., 1962.

**Brazil** — Recife. Companhia Siderurgica do Nordeste; Nails, galvanized fencing, barbed wire, and hand tools. Plans announced. 1.8 billion Cruzeiros. ($9.7 million).

**Brazil** — Plastibras; Plastic products. Plans announced. $3 million.

**England** — Distillers Co., Ltd.; Acetic Acid. Under Constr. Est. date of Oper., End 1961. $5.6 million.

**Italy** — Casavatore. Magrini Meridionale, S.P.A.; Low and medium voltage circuit breakers. Plans announced. $3.5 million.

**Italy** — Ferrandine. National Hydrocarbons Agency; Petrochemicals. Plans announced. $64 million.

**Jamaica** — Old Harbour — Textile Mfg. Ltd.; (Subs. of Ludlow Corp.) Jute rug backing. Est. date of Constr. Sept. 1960. Est. date of Oper., June, 1961. 150,000 Sq. Ft. (D)

**Japan** — Kawasaki. Nippon Petroleum Detergent Company Ltd.; Detergent polymer and alkylate. Plans announced. $Multi-million.

**Malta** — Malta Bacon Co., Ltd.; Pork products. Plans announced. £100,000. ($280,000).

**Mexico** — Mexico City. — Materials moldeables S. A. de D. V.; Amino moulding compounds. Plans announced. 15,000 Sq. Ft.

**New Zealand** — Whangarei. McKendrick Glass Mfg. Ltd.; Sheet windowglass. Plans announced. £150,000. ($420,000.)

**Nicaragua** — Rio Tuma. Empresa Nacional de Luz y Fuerza; Hydroelectric power. Plans announced. $20.8 million.

**Northern Ireland** — Londonderry. E.I. DuPont de Nemours and Co., Inc.; John C. Weyrich, Works Gen. Mgr. Neoprene synthetic rubber. In Oper. 365-acre site. (D)

**Vietnam** — Gaigon. Vinaspecia (Specia Rhone-Pouleno and Vinacife); Drugs, antibiotics and sulfonamides. Est. date of Oper., 1961. $1 million.


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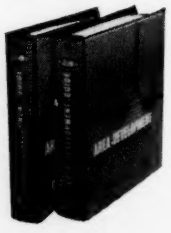
# PR PROBLEMS?



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# ELLIOT LAKE

**Canada's uranium boom produced a modern community which is now conducting a vigorous campaign to attract new industry to offset a current slump in uranium production. Combining a number of favorable location factors, Elliot Lake offers a unique opportunity for research facilities where a combination of mineral background, cool winter, and complete community services are desired. And in the near future, this community is destined to become the center of a northeast region of Ontario, an area which is bound to prosper because of the population build-up north and west of Toronto. Here is the story of this town's development activities and the opportunities site-seekers will find here.**

# TURNING PROBLEMS

*By Ronald K. Hill*

ELLIOT LAKE, ONTARIO. As we rolled east along Queen's Highway 17 from Sault Ste. Marie, we were impressed with the beauty nature has bestowed upon this region of Canda. To the south, we saw Lake Huron in all its grandeur, and to the north, we watched the green, sloping hills slip by. Occasionally, we saw outcroppings of granite which towered stolidly above everything around as if they were guarding the countryside.

After turning north on Queen's Highway 108, we enjoyed the green scenery alongside this new highway. Then, we were somewhat startled as we came upon Elliot Lake. Nestled among three calm, blue lakes in a setting which must be described as beautiful, here is a small, neat, modern city complete with split-level homes, modern schools, strikingly-designed brick churches, a brand new hospital, and a fully-facilitated business district.

Yet, with all its newness and completeness, Elliot Lake has its problems. Developed as a townsite for the 11 uranium mines in the area, the community has had rising unemployment as a result of a cutback in uranium production, which was caused when the United States decided not to pick up options to buy further uranium oxide from Canada.

Paradoxical as it may seem, however, the problem of unemployment can actually be termed advantageous to an enterprise moving into the area. This unemployment means that there is a supply of workers ready and willing to go to work immediately, thereby easing one of management's major problems in locating a new facility.

Furthermore, the cutback in uranium mining has brought about another situation which is certainly favorable to the prospective plant builder. Since the cutback, the community has recognized the need for diversification of industry and has

Complete with underground wiring, spacious parking facilities, and five branches of the biggest banks in Canada, Elliot Lake's lower shopping square is emblematic of the modernness of the community and the wide variety of services available here. Greatly different from the fur trading posts in the far north, Hudson's Bay Company's department store in the right background is a model of an efficient, modern merchandising outlet.

# INTO OPPORTUNITIES

started a concerted effort to improve further this modern community with the hopes of attracting new plants.

Elliot Lake has organized an ambitious industrial development campaign. An Industrial Commissioner has been retained and an industrial development advisory committee formed to work with him. The Chamber of Commerce works closely with the industrial commissioner and the members are planning combined efforts to help make the community an even better place in which to live and work. And the people of the community have gotten in the spirit of this movement, too.

As we drove through the residential areas, we saw people planting and mowing lawns, arranging rock gardens, painting houses, and improving driveways. The cordiality shown us evidenced the friendliness of the people.

When considering a community as a prospective site for new facilities, most industrialists ask, "Does this community want new industry?" At Elliot Lake, the answer to this question is a definite, "Yes."

Add to these two favorable aspects another plus factor: The people of Elliot Lake, generally speaking, are rugged individualists and have a pioneering spirit. This is clearly evident and, even in casual conversation, we got the impression that these are people who don't mind daring and who stand face-to-face with their problems.

Discussions with business operators, mining executives, and other employers strengthened this impression. These employers say that the majority of the people willingly do a day's work for a day's pay.

Yet, there are those who preach impending doom, and these are the ones who get quoted in the mass media. One business wasn't able to take

care of the demand during the boom and opened another place of business. Naturally, when the cutback came there was not enough demand to keep both places open, so one was closed.

And pictures of the "closed" sign appeared in a national medium all across Canada. In the same medium, the comment was made that ". . . Elliot Lake may well become the most handsome ghost town in history." Panicky remarks of this type followed the uranium cutbacks which, obviously, had a depressing effect on the economy of Elliot Lake.

Mining employment dropped sharply for a while, but through a "stretch out" provision allowed by the Canadian government, production at some of the mines will continue through 1966. And it is estimated that the mining companies will try to hold employment at about the 4,000 level so there will be an effective nucleus available to start the mines back into full production when the demand for uranium catches up with the supply.

Generally, the first part of 1960 has seen a transfer of contracts from the lower-grade-ore, smaller mines to the higher-grade-ore, bigger and more efficient companies as the uranium industry reorganized and streamlined itself.

Ultimately, the demand for uranium will move upward and the mines will go back into full production. The exact date is unknown, of course, but those who talk of a "ghost town" should study the history of the world's sources of power.

Stephen B. Roman, president of Denison Mines Limited, operators of the world's largest single uranium mine, explained it this way, "In uranium, we have an enormous source of power and never before in the history of the world has such wealth been allowed to remain unused for very long."

"My basic belief," Mr. Roman continued, "is that a major portion of uranium production will be utilized in generating electric power, although it is difficult at this time to estimate exactly when this will cause a balance between supply and demand of uranium oxide."

This belief is wide-spread among those who know uranium's potential. R. C. Hart, a prominent geologist and uranium expert, and an executive in this district for Rio Tinto Mining Company Limited (the world's largest holder of known uranium reserves), made this comment: "My company is confident that the use of uranium as a primary source of energy will expand enormously and that other areas will be developed by research in progress to the point where it may, in the future, be hard put to meet the demand."

A far cry from the old mining operations where tarpaper shacks served as office buildings, this artistic doorway opens into the administration building of Denison Mines Limited where you will find the latest computer systems and office equipment are in use.

Research is now underway to test the feasibility of alloying uranium with steel and Mr. Roman remarked that this research is progressing "quite favorably." To date, the tests conducted on the uranium-steel alloy indicate that the resulting metal is rust-resistant and the tensile strength and fatigue-resisting capabilities are greater than the steel now being produced. Nothing definite has been determined thus far, but extensive tests are being continued.

Of course, the uses of uranium and its end products are the focal point of experimentation all over the world. Atomic-powered ships and submarines are now in use, and tests are being made to find methods to harness atomic power as a

The Bank of Montreal's building on the lower square is illustrative of the permanent homes of the five branches of Canada's largest banks which are located here. All five banks are active in the industrial development programs underway in Elliot Lake.

Located on the shore of Horne Lake adjacent to the new Highway 108, the Elliot Lake Hotel is one of three modern hotels in operation in this model community. All are equipped with the latest hotel equipment and services, and each has spacious and comfortable beer lounges.

means of locomotion for land vehicles. In the background are the tools of war and defense which require uranium in large amounts, but this source of demand is not stable and is mentioned only for the record.

All of these factors point to one conclusion: Uranium is, indeed, a very valuable resource and will not remain unused very long. And, there are about 400 million tons of uranium ore in the Elliot Lake area. Certainly, readjustments and reogranizations are inevitable, but there is little evidence that Elliot Lake will become a "ghost town" as some pessimists predict.

What about the people who are not employed by the mines but whose living depends on the mining income? What do they think of Elliot Lake and its future? After questioning many of the citizens from various walks of life and levels of employment, we arrived at one conclusion: The people like the town and plan to stay.

Melville Forbes, an independent businessman who owns and operates Forbes Ready Mix and Building Materials, is characteristic of the great majority we talked to. "Elliot Lake will be here and prospering long after I'm gone," he asserted.

A visit to Mr. Forbes' plant on the main highway gave us an indication of the strength of his beliefs. Those employees who were not on other jobs were busy laying grass sod at the front of his plant, or constructing a new driveway for the entrance, or painting the buildings. It isn't surprising that Forbes has one of the most attractive businesses in the area.

Gordon Brown, an electrical contractor who has invested his savings, time, and energy in building his business, is of the same opinion. "I own my home. My children are happy here and they have good schools to attend," he said, "It may not be as easy as it used to be, but I'm planning to stay."

Another small electrical contractor, Peter Jabp, said it differently. "I've worked in many places, including the United States. I've banged around and maybe moved too much, but I'm not running now."

A former president of the local Chamber of Commerce, Jack Gauthier, also is improving his place of business. He recently had the area around his service station paved, an improvement that indicates permanency.

Many others could be quoted — waitresses, miners, firemen, bartenders, taxi drivers, plasterers, and so on — but the people mentioned above have invested money here and their expressions are representative of the faith that the great majority of the citizens have in their town.

In addition to the available labor supply, complete cooperation from the community, and an abundance of individualistic-minded people, what else makes Elliot Lake attractive to the site-seeker? Let's look closer at this remarkable community for the answers.

## Government and Services Are Efficient

The main reason why Elliot Lake is a model community is because it was efficiently governed from its beginning in 1955. Elliot Lake has a unique municipal structure, called an "Improvement District." The status of an Improvement District is that of a municipality established under the jurisdiction of the Province of Ontario's Department of Municipal Affairs. In this case, it includes within its boundaries nine townships encompassing an area of 324 square miles, in which 11 uranium mines are located.

R. C. Hart, mentioned earlier as an executive of the Rio Tinto Mining Company, also is chairman of the Board of Trustees which administers the governmental affairs of the town. He explained the reason for the large land area: "'The purpose of this move was two-fold. First, to insure that municipal growth would be confined to planned and well-designed communities with appropriate building and zoning by-laws and, second, to insure that the mining operations, both present and foreseeable, would be within the municipal tax range."

Members of the Board of Trustees are local citizens appointed by the Provincial government, which must also approve all actions of the board through its Department of Municipal Affairs. The administration of the municipality is carried out by the board through a secretary, who is a professional municipal administrator.

"While our local form of government may be considered unusual," secretary of the Improvement District P. L. Brown explained, "it is unquestionably the only workable system for a city which literally sprang into existence overnight."

The municipality is serviced by its own 22-man police force, a detachment of the Ontario Provincial Police and a detachment of Royal Canadian Mounted Police. The municipal force equipment includes four cruisers, a panel truck, and a safety car. With the exception of the safety car, all are equipped with three-way radio, and industrial and commercial area patrols are maintained at all times.

The Ontario Provincial Police detachment is

Overlooking the new, 117-bed hospital in the left foreground, this aerial photo shows "Neighborhood One" with its crescent streets and split-level houses and, in the left background, Elliot Lake where the municipal beach is located. Across the lake to the left lies one of the industrial areas where sites are available.

staffed by eight men and the Royal Canadian Mounted Police maintain a complement of three men.

Staffed with 16 permanent and 15 volunteer firemen, the Elliot Lake Fire Department operates out of a modern fire station which was opened in 1959. The department has two modern fire trucks and both are equipped with pumpers capable of delivering 625 gallons of water per minute. Both units are fully equipped including ladders, high pressure fog and portable extinguishers.

All commercial, residential, and industrial areas are provided with municipal fire protection and a special direct warning light and bell system is being installed which will provide automatic alarm for properties serviced by sprinkler systems. All operating mines in the area have their own industrial fire departments.

Late one evening, we visited the fire station and were given a tour of the station. We left impressed with the alertness of the firemen and their knowledge of the equipment and its capabilities.

The Public Works Department maintains the 21.7 miles of paved roads within the city and has complete snow-removal equipment to keep the city roads and the mine-access roads open during the winter months. This department also operates a functional garbage collection and disposal system and an efficient sewage disposal system. Two sewage disposal plants with a combined capacity of 56 million gallons per month serve the town. A primary and secondary type of sewage disposal system is in use and the effluent is diluted into two lakes in the area.

Water for the city is obtained by an electrical pumping system and uses Elliot Lake as the supply source. Engineer Plew Tooker advised us that

"sound principles were used in the selection of the water supply; Elliot Lake is a 'natural' source." This lake is north of the town and is large, deep, and sandy-bottomed.

The water system has a pumping capacity of 2,900 gallons per minute and the maximum pressure in the system is 120 pounds with an average pressure of 80 pounds. Average consumption is 40 million gallons per month with a capacity of 139 million gallons per month. The average temperature of the water is 50 degrees F.

Water rates are about the same as other communities in this region, with an average of $56 per year for the single-family dwelling. Commercial rates range from $12 to $120 per year depending on the type business. Since the mines all supply their own water, there is no established industrial rate, but a fair rate would be assigned depending on the amount of water used and the type industry.

Within the improvement district, there are 178 lakes which could be used as a source of water for industry, and it is obvious that water supply is not a problem.

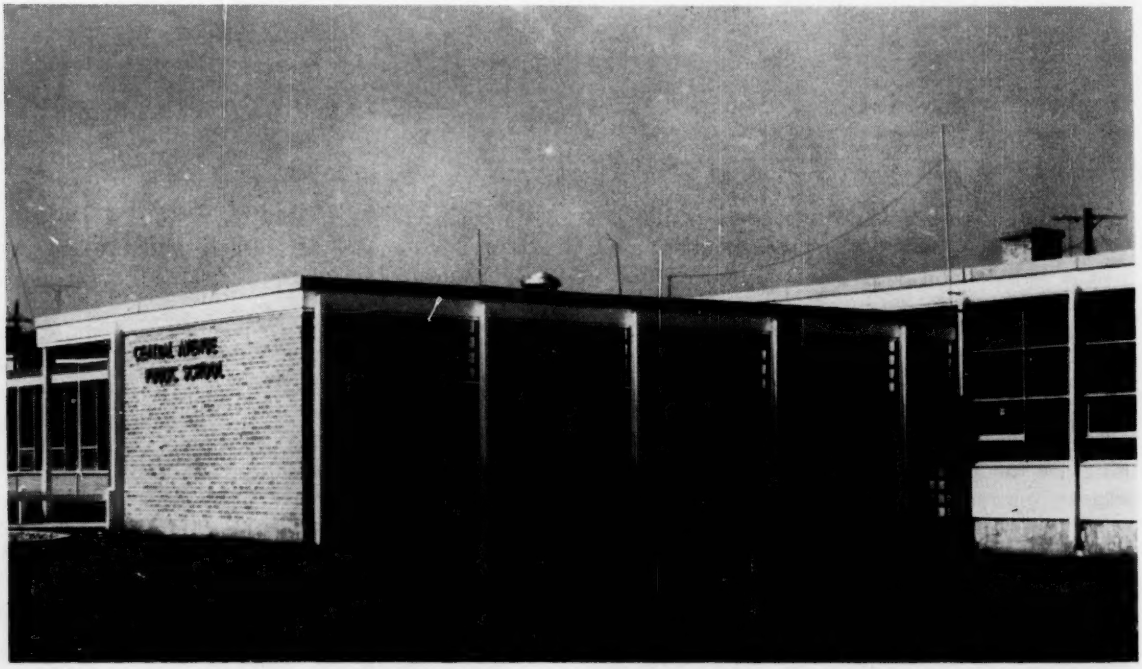
Water pollution within the district is very carefully controlled by the Health Department which makes regular inspections of the lakes and takes samples for testing purposes. H. F. Wright, Senior Inspector for the department, commented, "We want to make sure that there is no unnecessary pollution of the lakes in the district, and we have an efficient inspection program. The area including Elliot Lake and north and west is all free from any industrial contamination."

## Sound Schools Operated

A sound, efficient public school system is operated by the municipality in functional, modern buildings. The system includes six public (or elementary) schools with 54 classrooms and 1,692 children are enrolled. There is one high school with 16 classrooms and an enrollment of 332.

Also, a separate elementary school system is operated for children of the Roman Catholic faith. Directed by a separate school board, the system includes three schools with 34 classrooms. At present, there are 1,520 attending the separate schools, which are conducted in accordance with the standards set by the Ontario Department of Education.

Two colleges, the University of Sudbury and Huntington University, are located 85 miles east



Exemplifying the modern, functional school buildings, this is one of six public schools serving the municipality. In addition to the public schools, there are three parochial schools and one high school in the townsite.

at Sudbury. Of course, there are many colleges located further south toward Toronto and in Michigan.

Supporting the municipal services is a clearly-defined tax structure. "All property is assessed at 35 percent of market value," Max Tenhagen, deputy assessment commissioner told us, "the municipal general mill rate is 49.5 for residential property and 55.27 for commercial property. The high school rate is 8.05 and the elementary rate is 11.95 for public schools and 16.72 for separate schools."

Of course, there is a federal income tax which starts at 13 percent and goes up to 78 percent. (For a complete tax picture, you can get a free booklet from the Bank of Montreal, "Taxation in Canada.")

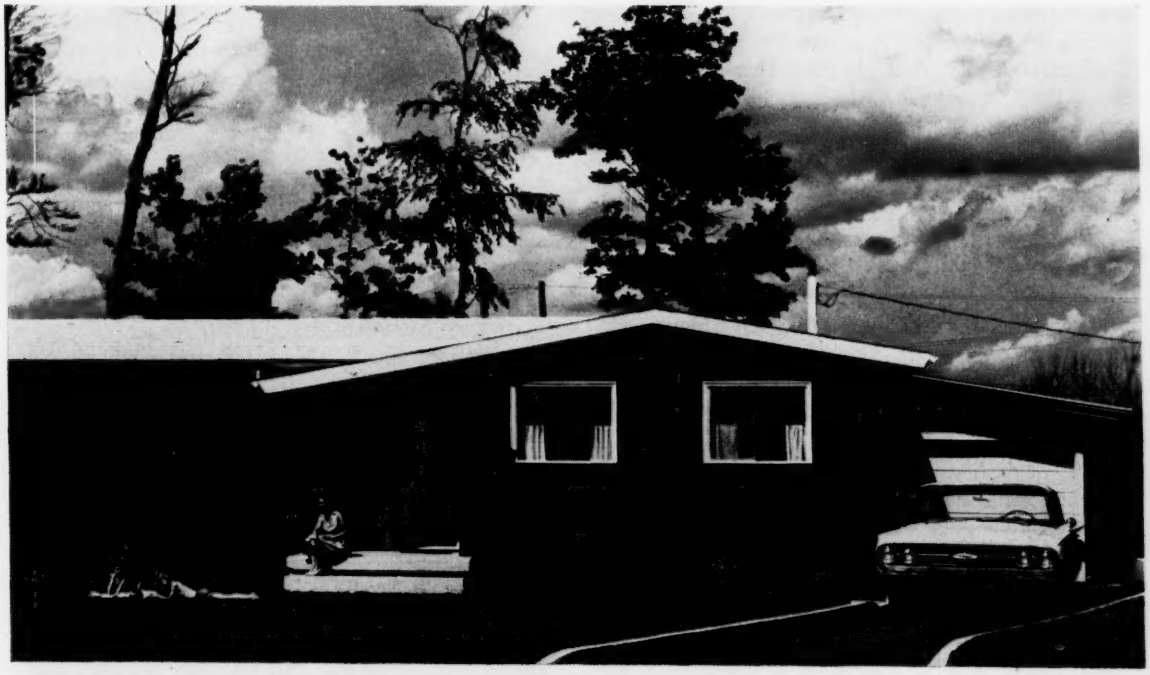
The total dollar investment in Elliot Lake presents more evidence of a complete, modern town. Residential, commercial, and industrial investment (excluding mine investment) is about $40 million. Schools, churches, and other property exempt from taxation is valued at $25.6 million and the mine investment is about $340 million. Thus, the total investment in Elliot Lake amounts to more than $400 million.

As you investigate the feasibility of locating a plant in Elliot Lake, you'll be pleased to find modern housing here. There are about 300 housing units available on a rental or purchase basis, with purchase prices ranging from $11,600 to $16,000 and rents varying between $90 and $135 monthly. Fully serviced building lots are priced from $450 to $1,000.

Also, there are many one and two bedroom apartments ready for occupancy. All houses and apartments are completely serviced by the city. In addition, the city maintains fully serviced trailer parks for mobile homes.

Equally impressive are the medical facilities you will find at Elliot Lake. A new, $3.15 million, fully equipped and accredited hospital was opened here less than a year ago. Founded and operated by the Sisters of St. Joseph, the hospital has 117 beds and 40 bassinets. After a tour of the hospital, we left with a high regard for the Sisters, nurses and doctors, who displayed equal amounts of efficiency and compassion in their work.

The community is served by 12 doctors and five surgeons and there is one medical clinic in operation. Dental care is provided by four dentists and one dental clinic.



Typical of the housing found in Elliot Lake, this ranch-type home is owned by a local hardware merchant. Houses of this type are available for sale or lease in the main community with prices ranging from $11,600 to $16,000, and rents ranging from $90 to $135 monthly.

## Complete Business Services Available

One of the outstanding aspects you will like about this town is the complete business services offered. Mining is the only basic industry, but a large number of service firms are located here — from architects to wholesalers.

Banking is one of the more important services you need in any location and at Elliot Lake you'll find all types of banking services offered by branches of five of the biggest banks in Canada: Bank of Montreal, Canadian Bank of Commerce, Imperial Bank of Canada, Royal Bank of Canada, and Toronto Dominion Bank.

There are seven finance and loan companies which are equipped to help you with most types of commercial and consumer financing. The Trans-Canada Credit Bureau operates a branch here and can readily supply you with credit information. Eight insurance agencies are available to take care of your insurance needs.

Four building contractors can construct a wide variety of buildings and facilities, and four plumbing and welding shops are located here. Steel, tires, liquid air, welding supplies, and petroleum are some of the products handled by the 13 wholesalers and distributors in Elliot Lake.

In addition, five small manufacturing firms have a wide variety of products and services to offer you: Forbes Ready Mix and Building Supplies, Hard Metals Limited, Dunlop-Canada Limited, Craig Bit Company Limited, and Algoma Beverages Limited.

The communications industry in this area is efficient and flexible enough to provide you with good service. Bell Telephone of Canada operates a new, $2.5 million branch office in the townsite and it is completely equipped to handle all types of service. Currently, there are 4,200 telephones in the area and more than 15,000 circuit miles in operation.

Elliot Lake is also serviced by Canadian Pacific Telegraph and many of the local business firms have their own teletype or telex systems. Mail service is satisfactory now and a new, $300,000 post office building is now under construction and will boost the efficiency of mail service for the area.

One weekly newspaper, The Standard, is printed here and the Sudbury Daily Star publishes a daily section on Elliot Lake, The North Shore Edition. Sudbury's CKSO-TV, carrying the Canadian Broadcasting System's programs, operates a retransmitting station in Elliot Lake that provides clear reception without the use of outside antenna. The same company operates CKSO radio in Sudbury and reception is clear here.

## Labor Picture Is Good

Unemployment, as reported by the Unemployment Insurance Commission, remains relatively stable considering the extent of the mining cutbacks. This paradox is partly explained by the mobility of the miners (many of them live in house trailers) and partly by the "stretch out" provisions. Latest figures indicate that only 279 male and 112 female have registered with the unemployment office. As the mines continue the reduction of production and, if no other job opportunities develop, it is evident that unemployment will rise higher.

Presently, the community has a total employment of approximately 7,500. Of these, 6,000 are employed by the uranium mines and the balance in light industry and commerce. Of those employed in the mines, only 40 percent work below ground. The mine workers include some top technical men and skilled and semi-skilled laborers.

The employment office here operates inter-office facilities with Sudbury and Sault Ste. Marie and those offices advise that male and female workers of all types are readily available and that their efficiency rating is above average.

A 40-hour work week is generally accepted in Elliot Lake with exceptions in some fields. Only one labor union operates in the district, the United Steelworkers of America, and there have been no strikes here and the relations between labor and management have always been maintained on a cordial basis.

## Population Within 500 Miles Is 50 Million

The population of Elliot Lake is now around 8,000 and the Improvement District has a total population of about 19,000. Elliot Lake lies about half-way between the Sudbury market area of 165,000 and the Sault Ste. Marie market area of 75,000.

The Province of Ontario has a population exceeding six million and a disposable income of almost nine billion dollars. Latest census figures (1959) for Canada reveal a population of over 17 million and a disposable income of more than 17 billion dollars.

Within a 500 mile radius of Elliot Lake, there is an estimated population of more than 50 million, with about 40 million of that number living in the United States. This 500 mile radius takes in the great majority of Ontario and Quebec; the western half of Vermont; most of New York,

President of the local Chamber of Commerce, E. D. Blahey, (left) tells Mr. and Mrs. Robert Fassl of Chicago how to find a good fishing spot. This honeymooning couple is typical of the tourists who are attracted to Elliot Lake because of the abundance of good hunting and fishing grounds surrounding the area.

Pennsylvania and Ohio; half of Indiana; the northeast corner of Illinois; all of Michigan and Wisconsin; and a portion of eastern Minnesota. The cover of this report shows this 500 mile radius within the black circle.

## Truck Transport Serves Area

Elliot Lake's primary method of freight transportation is truck transport, and five class "A" truck lines serve the area. "Everything brought into Elliot Lake came in on wheels," remarked Mr. Merv Mathewson, terminal manager for Motorways-Ontario Limited, "and we have proved here that the trucking industry can provide good, economical service on even the biggest jobs."

Mr. Mathewson, whose company recently purchased the land and buildings it formerly leased and is now re-building its facilities, added, "We provide 24-hour service to Toronto and are equipped to handle special requests efficiently."

The five major truck lines servicing Elliot Lake are Motorways, Inter-City Truck Lines, Dalewood-Secord Transport Ltd., Allen's Transport Ltd., and McKinley Transport Ltd. All operate point-to-point pickup and delivery service and Motorways, Inter-City, and Dalewood have branch terminals here. Piggyback and container service is provided by one or more of the lines here and special equipment, if needed, is available at Sudbury, which is two hours away by truck.

With the completion, in the fall of 1961, of the International Bridge at Sault Ste. Marie, truck service to Michigan and points south will be even faster. Presently, ferry service allows connection with Michigan at this point.

The Canadian Pacific Railway System operates daily freight trains between Sudbury and Sault Ste. Marie and conversely, with regular stops at Spragge, which is 19 miles south of Elliot Lake. "Freight rates are competitive with other forms of transportation," explained Mr. T. B. Fanning, general freight agent for Canadian Pacific, "and adequate service is provided. Special service would be set up for specific hauls if the traffic called for it."

Passenger trains are scheduled on a similar basis, with two and one half hour service to Sudbury and Sault Ste. Marie daily.

Elliot Lake is serviced directly by a passenger bus line connecting with Greyhound on a twice a day basis, with connections to all points. Of course, these lines handle small freight packages with rates comparable to those in the United States.

Although Elliot Lake does not have a paved airfield, chartered planes operate throughout the year, using skis and floats to land on the larger lakes in the district. Austin Airways Limited of-

fers all types of charter service out of Sudbury. Trans-Canada Air Lines operates out of Sudbury and Capital Air Lines services Sault Ste. Marie, Michigan.

The Canadian government is currently investigating the possibilities of constructing a deep water harbor at Cutler, about 20 miles south of here. Several companies have been contacted and the necessary traffic to operate the port on a profitable basis has been assured.

"There is good reason for confidence," board chairman Hart commented, "that docking facilities will be constructed within 25 miles of Elliot Lake in the near future. This facility will provide Northern Ontario with access to the St. Lawrence Seaway and the ports of the world."

Equally important, this port would provide a direct connection with the inland waterways of the United States and make low-cost water transportation available to industries in this area.

## Resources and Power Are Abundant

Looking at a geological map of the Province of Ontario, we realized why Elliott Lake is in an area with an abundance of minerals. Stretching from Sault Ste. Marie along the coast of Lake Huron to Elliot Lake and on to Sudbury, there is a strip of green indicating that the land is mainly volcanic, sedimentary, and intrusive rocks. Most of the known mineral deposits occur in this type of rock.

In this area alone, the following minerals have been discovered and are mined in varying quantities: Uranium, thorium (a by-product of uranium), platinum, cobalt, silver, nickel, iron ore, quartz, silica brick, and tantalum. Elliot Lake is the uranium center; Sudbury is the nickel center (and large quantities of cobalt and iron ore are mined there); and Michipicoten, north of Sault Ste. Marie, is the major producer of iron ore.

The two important metal centers are Sault Ste. Marie, where the Algoma Steel Mills are located, and Sudbury, where International Nickel Company of Canada operates the largest nickel processing mills in the world. Elliot Lake is strategically located midway between these two large metal centers.

Furthermore, there are huge deposits of gypsum, refractory clay, and lignite in the general region. And the land in the Elliot Lake district is generously sprinkled with good sand and gravel deposits which could be available by arrangement with the Ontario Department of Mines on a royalty basis of 10 cents per cubic yard.

At Cutler, 20 miles south of Elliot Lake, the Noranda Mines Acid Plant daily produces about 1,000 tons of sulphuric acid from iron pyrite which is brought in from Noranda Mines Ltd. The plant also produces about 7,000 tons of iron sinter and 7,000 tons of iron calcine monthly as by-products.

The Pronto uranium mine located near Cutler has now switched to mining copper from Pater mine located nearby.

Another basic industry in this region is pulp and paper. Mills are located in Sault Ste. Marie and Espanola, which is between Elliot Lake and Sudbury. One of the largest lumber mills in Canada is located at Blind River 20 miles southwest on Lake Huron.

Electrical power is supplied to Elliot Lake by the Hydro Electric Power Commission of Ontario. A 230,000-volt transmission line, complete with transformer stations, was constructed in 1954 to service the town and the 11 mines. Supplied from the Ontario Hydro grid system, power is available in quantities to meet any industrial requirements. It is 60 cycle, and available in single or three phase at any voltage.

The base rate for industrial power is $48.26 per kilowatt per year. Rates for industrial use are contingent, however, on the voltage supplied, load factor, phase requirements, and class discounts. For this reason, detailed information on rates should be obtained directly from the company.

Although natural gas is not supplied here at this time, the Northern Ontario Natural Gas Company has applied for a franchise to supply this area. An indication has been received that the application will be approved and the company has announced that it is prepared to construct a feeder line as soon as it can be shown that the gas is required in sufficient volume to warrant the installation.

Bituminous coal is used extensively by the mines and large amounts of coal are shipped into the area at $13.50 per ton. This cost would be lower if the deep water harbor is constructed at Cutler.

## "Extras" Make for Pleasant Living

The "extras" that make Elliot Lake a pleasant place to live and work could be the subject of a complete report, but a brief outline will have to suffice.

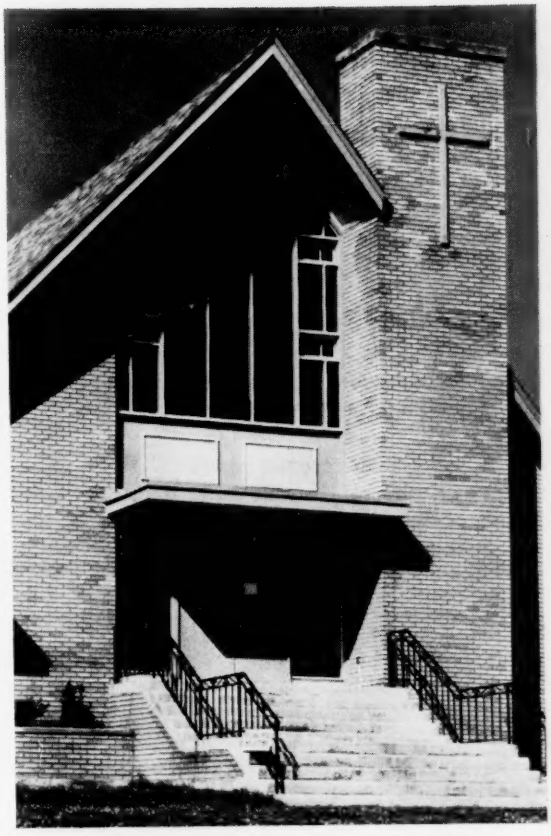
Most impressive are the churches you'll find here. There are 13 churches representing 11 denominations and they are housed in modern, permanent buildings, which are indicative of the faith of the people of this community.

A municipally-owned library containing over 5,000 volumes is operated by a staff of one full-time librarian and five part-time assistants, and loans out an average of 3,000 books per month.

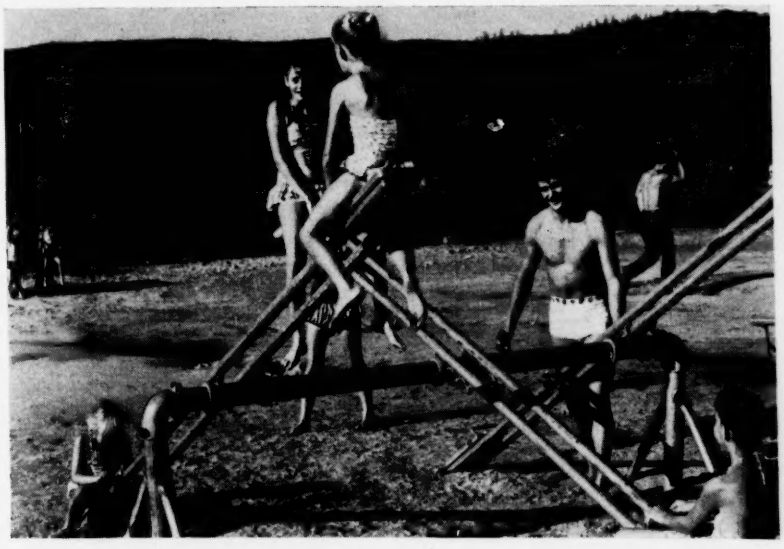
Functioning as the center of civic and recreation activities, Collins Memorial Hall is a modern auditorium-gymnasium fully equipped to accommodate a Ratepayers Association meeting or a class in judo training.

Civic clubs are abundant and active. Many of the names are quite familiar: Kiwanis, Lions, Junior Chamber of Commerce, Business and Professional Women's, Canadian Legion, Kinsmen, Y's Men, University Women's, Chamber of Commerce, CIMM, and Victorian Order of Nurses. These clubs function very similar to those in the United States and have contributed greatly to the improvement of the community.

Year-around recreational programs are conducted by the recreation department of the city, which employs a full staff including a director, assistant director, secretary, and 12 part-time instructors and supervisors. Summer activities include organized softball and hardball leagues for boys and girls from age nine and up, as well as leagues for adults, both male and female. Five supervised playgrounds are operated for the younger children. There is a municipal beach bordering Elliot Lake where seven lifeguards and instructors give lessons in swimming and skin diving. Water skiing, boating, canoeing, and tennis are popular summer sports.



Illustrative of the 13 churches representing 11 denominations in Elliot Lake, the United Church of Canada is a good example of the modern and dignified style of architecture that blends so well with this community of new homes and crescent streets.



Facilities and resources for recreation in the area are abundant with the municipal beach no more than five minutes away from any of the neighborhoods in the main community. Functioning as a year-round playground, this lake offers swimming in the summer and ice skating in the winter.

During the winter months, five hockey rinks are in operation and about 400 boys participate in various hockey leagues. Figure skating and curling have a large local following and facilities are available for pleasure skating.

Other recreation activities include basketball, badminton, table tennis, square dancing, judo training and weight lifting. The recreation department also conducts classes in the arts, such as drama and painting.

Recreation director Wilf Best, who has 12 years experience in this field, commented, "Considering the short length of time the recreation program has been conducted, interest and participation are very high and the facilities are more than adequate." Mr. Best also pointed out that a golf-driving range was recently opened and that a pistol range will soon be established under the sponsorship of the local police department.

## An Outdoorsman's Dream Is Nearby

Situated in the heart of an excellent hunting and fishing area, Elliot Lake truly is an outdoorsman's dream. Only 30 minute's drive will bring him into a hunting and fishing area which has been accessible only by chartered plane in the past. Fishermen will find that the "big" catch is not a rarity, but commonplace. In the placid lakes and fast streams north and northwest of the city, the finest game fish are found in abundance, including speckled trout, rainbow trout, lake trout, walleyes, bass, great northern pike, and muskellunge.

Hunters can take such trophies as black bear, moose, deer, game birds, and migratory waterfowl in season and with good regularity, too. Campers will find camp sites plentiful and clean.

The Ontario Provincial government recently announced that it will establish a new, 46,000-acre park and summer resort area north and northwest of the town. Access to the park will be provided by paved road, which will open up hundreds of miles of more good hunting and fishing grounds.

Tourists and businessmen alike will find accommodations excellent in the three hotels here — all are built similar to motels and offer the advantages of motel convenience. The cordiality of the hosts of these establishments makes even the shortest visit more pleasurable.

And you'll be pleasantly surprised at the fine cuisine served at these hotels. We enjoyed roast duck at the Nordic, tenderloin steak at the Elliot, and prime ribs of beef at the Algoden. These are only samples of the variety available, too. All three hotels offer a menu of fine wines and lounges where beer and ale are served. The provincial government operates package stores for liquor and beer.

## Industrial Sites Are Plentiful

Three of the plants of closed mines are available for lease for industrial use. The Can-Met, Spanish American, and Lacnor properties are obtainable on a low-cost lease basis. Each plant has an administration building, a machine shop building, and several large buildings suitable for plant use. The buildings are of laminated wood beam construction with stressed floors for heavy machinery. All of these sites are fully serviced with electricity, sewage, and water and have three-boiler, coal-fired central heating systems. All have adequate roads in the plant area.

Each of these sites also has small townsites in the immediate area with 15 to 17 houses each, all fully serviced. Too, there are fully-serviced trailer parks at these sites.

Further, all public land vested in the government in this area is available at cost through negotiations with the proper departments, and there is a vast number of acres of this type land to choose from. Industrial sites also are available at cost at both of the areas zoned for industry close to the city.

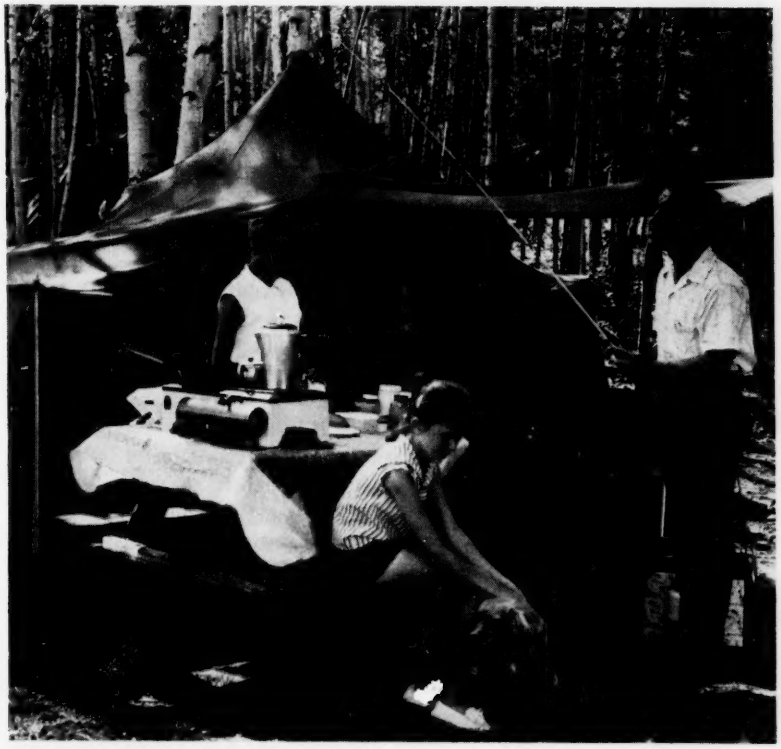
In the event that you should want to build a plant on land not serviced, the city would make provision for roads, water, sewerage, and so forth, on a local improvement basis, allowing the cost to be spread over a long period of time. Also, a fixed tax assessment up to 10 years may be negotiated with the city.

## ID Team Is Well Organized

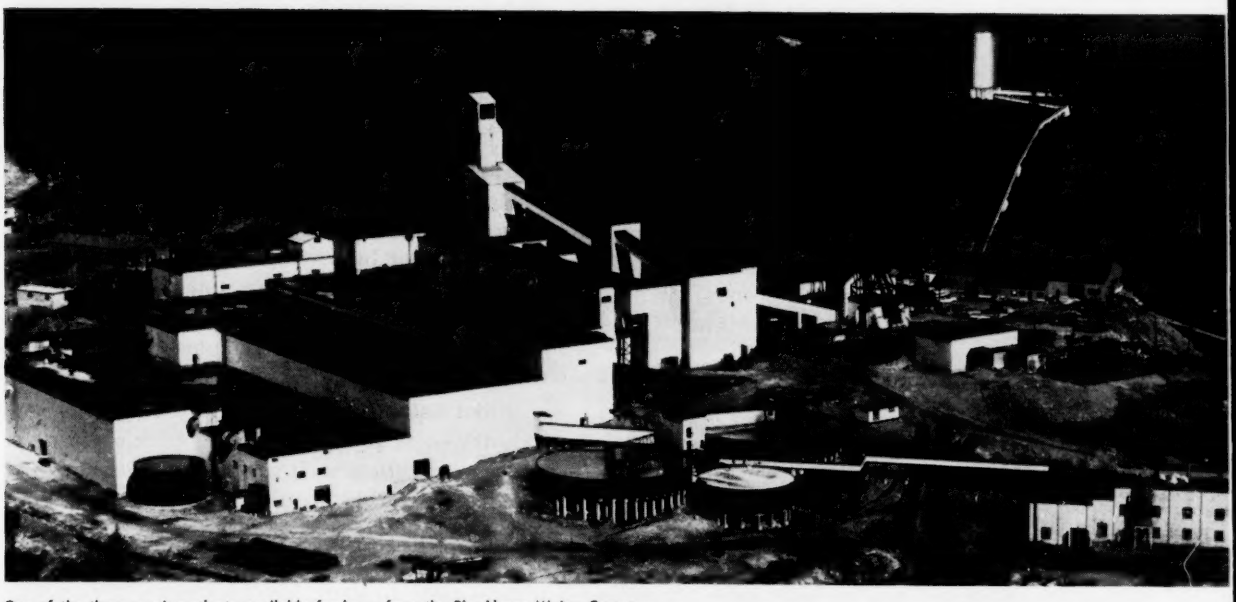
Elliot Lake's industrial development team is relatively new, but well-organized and oriented to render assistance to any company interested in the area. W. F. Shave is the Industrial Commissioner and he is in charge of coordinating the development activities. Formerly the secretary of the local Chamber of Commerce, Mr. Shave knows the area and where and how to get any type of information you might need.

R. C. Hart, the board chairman, is fully cooperative with and active in the development program. Furthermore, he is one of the pioneers of this community and is enthusiastic about its future and the opportunities which the town offers.

"Elliot Lake is a shining example of what can be done in community development in this era



Only 15 minutes from downtown Elliot Lake, this family has discovered a holiday spot unrivalled for scenic beauty and good fishing. There are 178 lakes within the boundaries of the Improvement District and virtually all offer good fishing.



One of the three uranium plants available for lease from the Rio Algom Mining Company Limited, this property includes a 28,000 square-foot administration building, a mill building of 12,000 square feet and a machine shop of 7,200 square feet. All the properties have coal-fired, steam central heating systems and are fully serviced with sewage, water, power, and roads.

Industrial development plans are checked by R. C. Hart, Chairman of the Board of Trustees of Elliot Lake (seated). Looking on are (left to right) ID's assistant editor Ronald K. Hill, Elliot Lake's Industrial Commissioner W. F. Shave, vice-chairman Edward Futterer, and board member Ralph Sneyd. All three members of the board are active in development activities, which are coordinated by Industrial Commissioner Shave.

of sound planning, zoning, and engineering," Mr. Hart stated, "The town is located in a geographical region bound to develop rapidly in the years to come and yet, because of extensive park reserves, will retain its attraction to the family tourist, the hunter and the fisherman."

"Plants are available in Elliot Lake for other industries," Mr. Hart continued, "and houses are available in the central community for their employees. It is hoped that the industrialists who are interested in enlarging their facilities in Canada, or in expanding into the Canadian market will give us the opportunity to be their hosts."

Mr. Hart added that tax concessions are a possibility, but that each case would be considered on its own merit and that "we would be glad to discuss this matter with any company interested in the area." Edward Futterer and Ralph Sneyd, who are also members of the board of Trustees, agreed on this point. Both of these men participate in and wholeheartedly endorse the development program.

President of the local Chamber of Commerce, E. D. Blahey, energetically supports the campaign to attract new industry and has gained the full cooperation of the membership of the chamber. An industrial development advisory committee, composed of prominent citizens and businessmen, works with the industrial commissioner in all phases of development work. At a meeting of this committee, we were impressed with the members' interest and their sense of responsibility in dealing with the matters brought before it.

Too, you can find aid and assistance on development matters from the following organizations: Bank of Montreal, Canadian Bank of Commerce, Imperial Bank of Canada, Royal Bank of Canda, Toronto Dominion Bank, Canadian Pacific Railway, and the Trade and Industry Branch of Ontario's Department of Planning and Development.

In Toronto, we enjoyed a short visit with Donald E. Holland, the assistant director of the Trade and Industry Branch, and we were pleasantly surprised with his intimate knowledge of Elliot Lake and impressed with the development activities conducted by his office.

These people and organizations want to assist you in any way possible in your investigation of Elliot Lake as a prospective site for new facilities.

## A Town "For Consideration"

Summed up, Elliot Lake is a town with problems, but these problems have resulted in new advantages for industry. This is a town with disadvantages, just as all other towns have, but the advantages are many. And when weighed together on an objective scale, the advantages far outweigh the disadvantages.

Elliot Lake is a town that not only wants new industry — it is organized and working hard to improve conditions so it will be more attractive to new industry. This is a town which has more than just people — it has ambitious, individualistic, pioneering men and women who are its most important asset. In short, Elliot Lake is a town which you should place in the category marked: "For Current Consideration."

**ID AREA SERIES**

**This report on the opportunities for industrial expansions into Elliot Lake was made by the staff of INDUSTRIAL DEVELOPMENT under the sponsorship of the following organizations: The Improvement District of Elliot Lake, the Province of Ontario, Bank of Montreal, British American Oil Ltd., Canadian Bank of Commerce, Canadian Industries Ltd., Denison Mines Ltd., Imperial Bank of Canada, Imperial Oil Ltd., Royal Bank of Canada, and Toronto Dominion Bank. Most of the photographs were taken by Robert Muckleston of the Province of Ontario Department of Travel and Publicity. Reprints of this report may be obtained from W. F. Shave, Industrial Commissioner, Plaza Building, Elliott Lake, Ontario, Canada.**

# ELLIOT LAKE

## New Industrial-Recreational Location Values Abound In Fabulous Northeastern Ontario

- *Labour force of 10,000 or more workers and families (total population now 20,000) can be accommodated in three colourful subdivisions already containing several thousand recently constructed homes separated from commercial areas by green belts.*
- *New civic projects include attractive sites for additional resort and motel accommodation and expansion of industrial areas.*
- *New Ontario Government projects include large institutions, also a 46,000 acre provincial park with campsites, picnic areas, canoe and nature trails and extremely satisfying angling.*
- *Hunting areas abound with moose, bear, deer, grouse, partridge and ducks. Planes fly sportsmen to outpost hunting and fishing camps.*
- *Social life includes beach bathing, sailing, motor boating, water skiing and other outdoor games and sports. Visitors also enjoy sightseeing tours.*
- *Winter activities include curling, hockey, figure skating, skiing, badminton, little theatre, bridge tournaments, photography and art study, handicrafts.*
- *Health attributes include smog-free, pine scented air and clean, clear waters.*

ONTARIO

The story of Elliot Lake is one of the greatest wonder tales of this wonder age – a saga of tenacious courage, unflagging optimism, foresight and phenomenal growth even for this land of phenomenal developments, northern Ontario.

The modern pioneers who scratched the pre-Cambrian rock and located the magic ore, uranium, key to tomorrow's mushrooming demands for power for home and industrial use – who in the short space of six years sank the mine shafts, reared the shaft heads and built the mills that serve the ten producing mines, erected the homes, business blocks, hotels, churches, schools, theatres, superb community centre and $3 million dollar hospital and installed all needed services – these are the farsighted men who did not need to live a hundred years to see their plans mature – these are the men who look forward now to a second and equally important development stage.

For here in Elliot Lake on the eastern fringe of fabulous Algoma is a new concept of industrial-recreational location values based on twin factors: *economics* and *living*.

A skilled and reliable labour force, adequate housing, excellent communications systems, wide variety of raw mineral and forest products in Algoma and adjoining regions, cheap electric power and clean waters, altogether make Elliot Lake a good place in which to operate a business or industry, work, live or enjoy a memorable vacation. Potential deep water harbours to link with all the world's sea lanes await development nearby.

Homes are only minutes from industry and business. Facilities for outdoor recreation, including campsites and picnic areas, beaches, canoe and nature trails, photogenic scenery and exciting fishing and hunting are only minutes from homes. Winter recreation potentials include ice fishing, sports car racing on ice and shooting wolves from aircraft.

These values invite *your* consideration and careful study. For detailed information regarding residential, industrial, and business opportunities in this fabulous district, write W. F. Shave, Industrial Commissioner, Elliot Lake.

# PROVINCE OF ONTARIO

# NEED HELP TO GAUGE LABOR POOL?

**In studying possible locations for a new plant, you will undoubtedly need to determine whether suitable personnel are available in the areas under consideration. Federal, state and local employment services offer a variety of services that may prove useful to you in getting the information needed for a sound decision. They stand ready to make special surveys of local areas or to round up specialists from other areas.**

*By William U. Norwood, Jr.*

Since industrial planning and expansion are dependent to a significant extent upon the Nation's manpower potential, attention to the solution of employment problems will play a major part in economic development during the next ten years.

The great expansion in research and development activities, the tremendously rapid increase in application of technological improvements, the increasing size and complexity of business organization, and the widespread growth of record keeping among all types of enterprises are among the major causes for anticipated changes in employment which will require analysis and careful planning in this decade.

Although our population growth during this period will be adequate to meet future labor needs, great efforts must be made to improve and to utilize properly the skills of the labor force in order to meet those requirements.

## The State Employment Services

The State Employment Services — affiliated with the United States Employment Service, Bureau of Employment Security, U. S. Department of Labor — are well equipped to assist employers in their efforts to solve employment problems as they arise and to plan for the manpower future. These Employment Services operate more than 1,850 full-time public employment offices which are located in every State. They provide specialized recruitment and placement service, as well as current labor market information, to employers and workers.

The State Employment Service office in the employer's own community is the place to go for service. The public employment office concerns itself with the employment needs of local businessmen and workers. Its staff members are trained to locate, select, and refer qualified personnel. They help to analyze manpower problems, develop plans of action, and generally to provide assistance and advice.

All State Employment Service offices are listed in local telephone directories. If there is no local office in a community, the address of the nearest one can be determined by writing to the State office of the Employment Service, usually located in the State capital.

## Recruiting, Screening, Referral

The State Employment Services recruit workers in all occupations — professional, managerial, technical, clerical, and sales, as well as skilled, semi-skilled, and unskilled workers. They are screened and referred by public employment offices to meet employers' particular job specifications for current and anticipated manpower requirements.

For example, suppose that an automobile company needs an automotive engineer who has had experience in supervising the manufacture of automobiles, trucks, trailers, and other automotive equipment, and who will be capable of testing the performance of automotive components, such as engines and brakes. The employing official would convey those requirements to the Employment Service interviewer who writes the "employer order." The local office would then make every effort to refer applicants with such qualifications and related experience. The employer makes the final selection, but through the assistance of the Employment Service, he can make his choice among applicants who are particularly qualified to do the job.

If workers with the required skills are not available locally, they can be recruited through the nationwide

clearance placement system of the United States Employment Service. The public employment offices are more than local labor exchanges serving employment needs of communities. They are links in a nationwide network. Through the process of labor clearance between local employment offices, an employer with an opening for any particular type of worker and a qualified applicant in another city can be brought together.

The Employment Service in its clearance operations offers a variety of methods for referring the qualified worker, or a record of his qualifications, to the employer. When workers are to be recruited through the clearance placement system, the local employment office can advise as to the appropriate methods and areas of best recruiting potential, and can assist in arranging recruitment itineraries and advance publicity.

### Professional Placement Service

In some large metropolitan areas, where there is a great demand for professional, technical, and clerical workers, separate divisional facilities, or even special offices, have been established within a local State Employment Service office, to meet more effectively the needs of employers and applicants for service in those occupations. These offices and divisions are devoted exclusively to providing service to employers seeking professional, scientific, managerial, technical, or clerical workers and to the registration, counseling, testing, referral, and placement of job applicants in those occupational categories.

The Employment Service also has developed a Professional Office Network comprised of offices located in 106 key cities in the States and the District of Columbia. They provide specialized placement service for professional, scientific, technical, and managerial occupations. These offices serve as major recruiting points, so far as professional placement is concerned, for the 1,850 public employment offices. They receive from all States listings of professional and managerial job openings which cannot be filled locally. When qualified applicants are found, these offices can communicate directly with any of the other 1,850




# A PLANT

$4.81 per sq. ft.

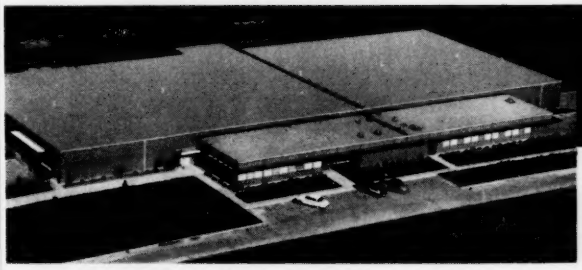
72,800 sq. ft. Jumbo brick on steel columns. Ceiling height 13'. 100% sprinklered. 37,000 sq. ft. air conditioned. 100% financed by local interests.

# COSTS LESS

$5.11 per sq. ft.

60,000 sq. ft. Steel and masonry construction. Ceiling heights 18'—12'—10'. 100% sprinklered. Office air conditioned. Landscaping and spotlights included in contract.

# IN GEORGIA



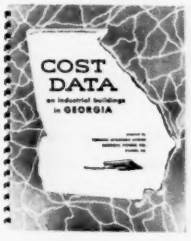
$6.90 per sq. ft.

54,000 sq. ft. Steel and masonry. Jumbo brick, face brick, aluminum curtain walls. 100% sprinklered and air conditioned. Paved parking for 200 cars.

In Georgia, heartland of the rich southeastern market, new factories and warehouses of national concerns are being built at an ever-increasing rate. And they are being built at costs well below those that prevail in other sections, as you can see from the typical examples above.

**WRITE FOR YOUR FREE COPY**

The 1960 edition of our building cost data book contains photographs and complete specifications of many recently constructed plants, together with cost information. You'll find it highly interesting.




*E. A. YATES, Jr., Vice President*

**GEORGIA POWER COMPANY**

**Industrial Development Division**

Box 1719U Atlanta 1, Ga. Phone JAckson 2-6121

local offices by telephone, telegraph, or air mail. Through these procedures, professionally qualified persons have immediate access to a nationwide listing of job opportunities in their field of interest, and the job openings of employers are exposed to the greatest possible supply of applicants.

## A Typical Case

A design engineer employed by a Buffalo, New York aircraft manufacturer anticipated a layoff during a recent period of recession. He decided to "plan ahead" by registering in advance with the local office of the New York State Employment Service. In a very short time, he received job offers from Alabama and Florida, and in a few weeks he reported for work in an aircraft plant in Birmingham.

As a result of hiring the Buffalo engineer, the Alabama manufacturer decided that Buffalo might be a good source for badly needed engineering personnel. Through the State Employment Service, the personnel director arranged for further recruitment in upstate New York. In this way, the Professional Office Network demonstrated its usefulness to both applicants and employers through the exchange of information and rapid communication concerning job seekers and jobs.

## Tests for Qualified Workers

The Employment Service refers only potentially qualified applicants for specific job openings. In determining qualifications for these referrals, it frequently uses proficiency and aptitude tests.

The United States Employment Service and the affiliated State Employment Services, in cooperation with industrial management and unions, have validated aptitude tests for more than 600 specific occupations. More than 1,425 local employment offices are equipped with testing facilities. The types of tests administered include trade tests to measure occupational skills already acquired and aptitude tests to measure potentiality for learning new occupational skills. In the first category, for example, a typing test might be administered to determine how many words per minute an applicant could type. Aptitude tests, on the other hand, are selection devices which are used to measure capacities to learn specific jobs. For example, the Employment Service has developed aptitude test batteries for the occupations, Tool-and-Die Maker and Assistant Chemist.

While selection devices are already in use for a large variety of occupations, many jobs are not yet covered. Accordingly, if an employer requires tests for one of those occupations, the United States Employment Service — with the help of the appropriate State Employment Service and the cooperation of the employer — will, if feasible, develop tailormade tests to meet his needs.

William U. Norwood, Jr., is Assistant Director of the Bureau of Employment Security in the U. S. Department of Labor in Washington, D. C. His responsibilities include guidance and coordination of the 53 state and territorial employment security agencies which in turn supervise nearly 2,000 local public employment offices. A Floridian and graduate of the University of Florida, he entered the Employment Security program in that state in 1938 and rose to the position of State Director before coming to Washington last year.

## Turnover Problem Solved

The following example illustrates how test selection by the Employment Service can be helpful to an employer. A company in Pennsylvania, which was engaged in the production of a special wiring device, requested the assistance of the local Employment Service office in solving its turnover problem. The percentage of turnover was so excessive that it was impossible to achieve or maintain satisfactory production. This was true in spite of the fact that working conditions were excellent, and that on-the-job training was provided by the company for a period of six weeks for all new workers. After careful study of the company's operations, Employment Service technicians decided that the company's principal need was to employ new workers with potential ability to do the job. Accordingly, detailed studies were made by occupational analysts of the jobs involved in this operation, and job specifications were developed. After careful consideration of these specifications, a suitable aptitude test battery was decided upon for use by the local Employment Service office in selecting potentially qualified applicants for referral to the company. This selection process was so successful that turnover was reduced to a minimum, and the company's production goals were achieved. The employer is completely satisfied with these results and continues to use the Employment Service to recruit workers for any positions in which vacancies occur.

## Occupational Information

Many tools and methods for interviewing, selection, and referral of workers by local office personnel have been developed by the United States Employment Service. Employers find these tools and techniques to be very useful in manpower planning and in solving a variety of employment-management problems. Local Employment Service offices can be of assistance to employers regarding the application of these tools and methods in the solution of their own problems.

For example, the *Dictionary of Occupational Titles* identifies approximately 22,000 jobs, with their code numbers, and lists alphabeti-

cally approximately 40,000 different job titles. Volume I defines occupations and furnishes uniform names for basic jobs in agriculture, trades and services, industry, professions, and crafts. Volume II presents the structure of the United States Employment Service occupational classification system and lists, in numerical order and according to assigned code numbers, the titles defined in Volume I. These titles are arranged in groups which bring together jobs related in such matters as the similarity of skills, knowledge, and abilities required.

The *Dictionary* can provide assistance to employers in recruitment and placement; converting job titles to standard terminology; planning upgrading and transfer programs to show the degrees of relationship between various jobs; preparing staffing patterns; job and wage evaluation to define job duties, to indicate skill levels, and to show job relationships and reconversion planning to show the relationship of previous experience to new jobs.

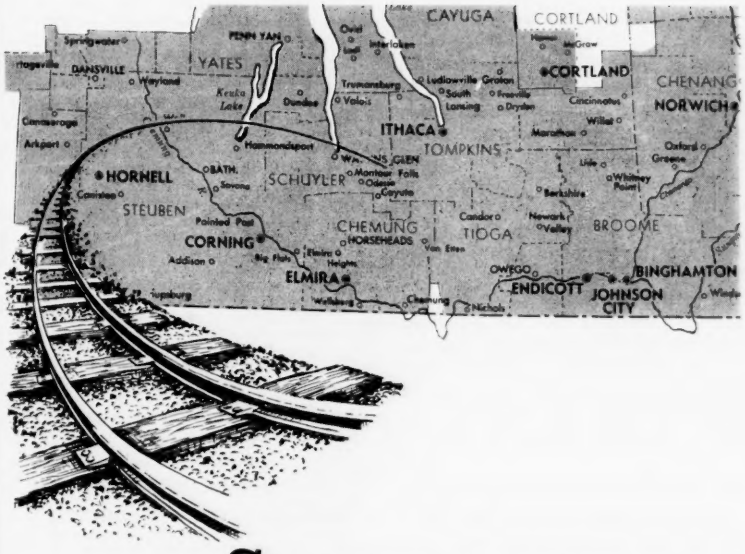
The publication, *Suggestions for Control of Turnover and Absenteeism*, is a source of practical assistance which makes a valuable contribution toward the solution of problems in this area.

*In-Plant Manpower Planning* is a good reference manual. It describes practical methods for manpower planning and suggests how Employment Service job analysis and classification techniques can help an employer to make more effective use of workers' skills.

Labor market information is compiled by the Employment Service and is available upon request. It includes data on employment and unemployment trends, demand and supply of labor by occupations, labor market outlook, wages, labor turnover, and related factors. Such information, compiled on an area, industry, or occupational basis, is helpful to employers who are planning recruitment activities, expansion, training programs, or location of new plants or establishments.

Publications such as the Bureau of Employment Security's *Labor Market and Employment Security, Area Labor Market Trends*, and a wide variety of State and area labor market releases contain much useful information.


**Rail Service is good in *south central* NEW YORK**




Six leading rail lines give the south central part of New York served by New York State Electric & Gas Corporation good service.

Excellent transportation in all other fields puts this uncongested area of south central New York within an overnight trip of most of the nation's leading markets. For a distribution point or a western manufacturer building close to major markets, there are many advantages.

*For more information on available plant sites, communities and labor, call or write E. W. Bartley, Manager, Area Development, New York State Electric & Gas Corporation, 62 Henry Street, Binghamton, New York. All inquiries are handled on a confidential basis.*

NEW YORK STATE ELECTRIC & GAS CORPORATION

## Job Opportunities Information

Some State Employment Services conduct area skill surveys to provide information about current and expected manpower requirements and training needs by occupation. Such information is essential to a community in its long-term manpower planning. Intensive community-wide efforts are needed in many localities to improve the skills of the work force and to meet current and future skilled manpower requirements. Management, labor, schools, and civic groups benefit from local action taken to improve the skills of the work force.

Other State Employment Services prepare local occupational guides, describing the duties, requirements, and job prospects of specific occupations. Those guides provide information which is useful in counseling, in training, and in meeting labor shortages.

*Publications of the U. S. Employment Service* is a free bulletin which lists, describes, and explains how to order all USES publications available to the public. A single copy of this publication can be obtained from local Employment Service offices, or from the United States Employment Service, Bureau of Employment Security, U. S. Department of Labor, Washington 25, D. C.

## The State Employment Agencies

Following is a list of the state employment agencies, and those in the U.S. possessions, which will serve as a handy guide for you in making inquiries about available workers in any part of the nation:

ALABAMA: Ralph R. Williams, Director, Dept. of Industrial Relations, State Office Building, Montgomery 4, Alabama.

ALASKA: Merrill E. Weir, Director, Employment Security Division, Department of Labor, Box 2661, Juneau, Alaska.

ARIZONA: James A. Rork, Administrator-Director, Arizona State Employment Service, 1720 West Madison Street, Phoenix, Arizona.

ARKANSAS: Luke Arnett, Acting Administrator, Employment Security Division, Department of Labor, Employment Security-Welfare Building, Box 2981, Little Rock, Arkansas.

CALIFORNIA: Irving H. Perluss, Director, Department of Employment, 800 Capitol Avenue, Sacramento 14, California.

COLORADO: Bernard E. Teets, Executive Director, Department of Employment, 1210 Sherman Street, Denver 3, Colorado.

CONNECTICUT: Joseph J. Gibbons, Executive Director, Employment Security Division, Department of Labor, 92 Farmington Avenue, Hartford 15, Connecticut.

DELAWARE: Albert Stetser, Chairman-Executive Director, Unemployment Compensation Commission, 601 Shipley Street, Wilmington 99, Delaware.

DISTRICT OF COLUMBIA: Fred Z. Hetzel, Director, United States Employment Service for the District of Columbia, 1724 F Street NW., Washington 25, D. C.

FLORIDA: James T. Vocelle, Chairman, Industrial Commission, Caldwell Building, Tallahassee, Florida.

GEORGIA: Marion Williamson, Director, Employment Security Agency, Department of Labor, State Labor Building, Atlanta 3, Georgia.

GUAM: Director, Department of Labor and Personnel, Government of Guam, Agana, Guam.

HAWAII: Howard Wiig, Administrator, Bureau of Employment Security Department of Labor and Industrial Relations, 825 Mililani Street, P. O. Box 3680, Honolulu 11, Hawaii.

IDAHO: H. F. Garrett, Executive Director, Employment Security Agency, P. O. Box 520, 317 Main Street, Boise, Idaho.

ILLINOIS: Samuel C. Bernstein, Commissioner of Placement and Unemployment Compensation, Department of Labor, 165 North Canal Street, Room 200, Chicago 6, Illinois.

INDIANA: Richard A. Phillips, Director, Employment Security Division, 141 South Meridian Street, Indianapolis 25, Indiana.

IOWA: Henry E. Carter, Chairman, Employment Security Commission, 112 Eleventh Street, Des Moines 8, Iowa.

KANSAS: John Morrison, Executive Director, Employment Security Division, State Labor Department, 401 Topeka Boulevard, Topeka, Kansas.

KENTUCKY: Jo M. Ferguson, Executive Director, Bureau of Employment Security, Dept. of Economic Security, Capitol Office Building, Frankfort, Kentucky.

LOUISIANA: Richard E. Brown, Jr., Administrator, Division of Employment Security, Department of Labor, P. O. Box 4094, Capitol Annex Building, Baton Rouge 4, Louisiana.

MAINE: Adrian T. Cloutier, Chairman, Employment Security Commission, 331 Water Street, Augusta, Maine.

MARYLAND: Robert B. Kimble, Executive Director, Dept. of Employment Security, 1100 North Eutaw Street, Baltimore 1, Maryland.

MASSACHUSETTS: Antonio England, Director, Division of Employment Security, 881 Commonwealth Avenue, Boston 15, Massachusetts.

MICHIGAN: Max M. Horton, Director, Employment Security Commission, 514 Boulevard Building, 7310 Woodward Avenue, Detroit 2, Michigan.

MINNESOTA: Frank T. Starkey, Commissioner, Department of Employment Security, 369 Cedar Street, St. Paul 1, Minnesota.

MISSISSIPPI: John E. Aldridge, Executive Director, Employment Security Commission, P. O. Box 1699, Milner Building, Jackson, Mississippi

MISSOURI: J. E. Taylor, Director, Division of Employment Security, Department of Labor and Industrial Relations, 421 East Dunklin Street, Jefferson City, Missouri.

MONTANA: Chadwick Smith, Chairman and Executive Director, Unemployment Compensation Commission, Sam W. Mitchell Building, P. O. Box 1728, Helena, Montana.

NEBRASKA: Tal Coonrad, Director, Division of Employment Security, Department of Labor, 134 South Twelfth Street, P. O. Box 1033, Lincoln 1, Nebraska.

NEVADA: Richard Ham, Executive Director, Employment Security Department, P. O. Box 602, Carson City, Nevada.

NEW HAMPSHIRE: Benjamin C. Adams, Director, Department of Employment Security, 34 South Main Street, Concord, New Hampshire.

NEW JERSEY: Frank T. Judge, Director, Division of Employment Security, 28 W. State Street, Trenton 25, New Jersey.

NEW MEXICO: Richard J. Pino, Chairman-Executive Director, Employment Security Commission, P. O. Box 1799, 103 Sixth Street SW., Albuquerque, New Mexico.

NEW YORK: Alfred L. Green, Executive Director, Division of Employment, Department of Labor, 800 North Pearl Street, Albany 1, New York.

NORTH CAROLINA: Henry E. Kendall, Chairman, Employment Security Commission, P. O. Box 589, Jones and North McDowell Streets, Raleigh, North Carolina.

NORTH DAKOTA: Carl F. Fryhling, Director, North Dakota State Employment Service, 207 East Broadway, Box 568, Bismarck, North Dakota.

OHIO: Donald B. Leach, Administrator, Bureau of Unemployment Compensation, 427 Cleveland Avenue, Columbus 16, Ohio.

OKLAHOMA: Bruton Wood, Executive Director, Employment Security Commission, American National Building, Oklahoma City 2, Oklahoma.

OREGON: David H. Cameron, Commissioner, Department of Employment, 513 Public Service Building, Salem, Oregon.

PENNSYLVANIA: A. Allen Sulcowe, Executive Director, Bureau of Employment Security, Dept. of Labor and Industry Bldg., Seventh and Forster Streets, Harrisburg, Pennsylvania.

PUERTO RICO: Mrs. P. A. Pagán de Colón, Director, Bureau of Employment Security, Stop 17½ Fernandez Juncos Ave., Santurce, Puerto Rico.

RHODE ISLAND: A. Maurice Paré, Director, Dept. of Employment Security, 24 Mason Street, Providence 3, Rhode Island.

SOUTH CAROLINA: Keith R. Aull, Executive Director, Employment Security Commission, 1225 Laurel Street, P. O. Box 995, Columbia 1, South Carolina.

SOUTH DAKOTA: Miss Goldie Wells, Commissioner, Employment Security Department, 310 Lincoln Street South, Aberdeen, South Dakota.

TENNESSEE: L. B. Jennings, Commissioner, Department of Employment Security, Cordell Hull State Office Bldg., Nashville 3, Tennessee.

TEXAS: R. L. Coffman, Administrator, Texas Employment Commission, TEC Building, Austin 1, Texas.

UTAH: Curtis P. Harding, Administrator, Department of Employment Security, Industrial Commission, 174 Social Hall Avenue, P. O. Box 2100, Salt Lake City 10, Utah.

VERMONT: Henry A. Milne, Chairman, Unemployment Compensation Com., 7 School Street, P. O. Box 708, Montpelier, Vermont.

VIRGINIA: J. Eldred Hill, Jr., Commissioner, Virginia Employment Commission Broad-Grace Arcade, P. O. Box 1358, Richmond 11, Virginia.

VIRGIN ISLANDS: Mrs. E. Louise Scott, Director, Virgin Islands Employment Service, Charlotte Amalie, St. Thomas, Virgin Islands.

WASHINGTON: Otto S. Johnson, Acting Commissioner, Employment Security Department, P. O. Box 367, Old Capitol Bldg., Olympia, Washington.

WEST VIRGINIA: F. Duane Hill, Director, Dept. of Employment Security, State Office Building, California and Washington Streets, Charleston 5, West Virginia.

WISCONSIN: A. T. Rose, Director, Wisconsin State Employment Service, 105 South Blair Street, Madison 3, Wisconsin.

WYOMING: Chester P. Sorensen, Executive Director, Employment Security Commission, P. O. Box 760, 136½ So. Wolcott St., IOOF Bldg., Casper, Wyoming.

**Even in this day of advanced planning techniques, many firms are still making costly mistakes through failure to prepare adequate long-range plans for facility expansion. Here, an official of a well-known management consulting firm lists examples of errors which could and should have been avoided.**

# DON'T FENCE YOURSELF IN !

*By R. L. Forster*

One of the astonishing phenomena of the last ten years is the explosively growing acceptance of long range facilities planning programs among progressive companies in every industry in the country.

Many reasons could be cited, but if we were to seek out only one we would probably have to settle for the fact that these times in which we live are dynamic and not static; that while the future is less certain now than at any time in the past we have less time than ever to correct even minor errors in direction; that planning in an expanding company is a recognized necessity, not a luxury.

Consider these comments which have been so often heard that they are almost axioms in some circles: 1. "We can always get manufacturing and warehouse space when we need it and that goes for offices, laboratories and the rest." Companies with an awareness of the cost-causing elements of their business have long since learned the hidden but real penalties which come from dispersed operations and operations which have been tailored to fit the facilities.

2. "We don't know what we will be making five years from now much less 10, 15 or 25 years in the future." This obvious truism has obscured the fact that planning contemplates *change* as well as continuity; that generally the problem will be one of degree — not radical change. The company making machine tools is not likely to convert into a toilet goods manufacturer.

3. "So many new developments are coming along in technology, equipment, new materials and so on that we would be wasting our time in doing more than including rough estimates of the financial requirements for facilities in our corporate plans for the long pull." Companies taking advantage of these new developments have been leaders in the facilities planning field — their plants must be planned so that they are not imprisoned by the current methods and processes. This is another case where the paradox preaches the truth — the greater the expectation for change, the greater the need for planning in depth.

4. "Why should we make plans and commitments of this sort for the next generation or two of our company management — our generation just won't be around and, anyway, the new generation will want to do as they see fit." This excuse for procrastination ignores the old farm saying, "We are all the victims of the direction in which we are going." The absence of positive planning for continuity of effective operations with all *facets* considered will pass on to the next generation of management a pattern and a course-of-action by the mere law of momentum. Whether the pattern is

downhill, sidewise, or upward can only depend on chance or on planning.

5. "When we built our factory and warehouse, we bought plenty of land as a hedge against future needs — we are in good shape." In a few cases this has been true — unfortunately in many more it has served merely as an expensive mirage. Land by itself is only a commodity. It is how the land is used that determines the hedge against the future. Additionally, vacant land — like vacant buildings — always seems much larger than it actually is. Many a company "with land coming out of its ears" has acquired an extra parcel when confronted with a scale model of the plot showing development at its maximum use. Too many times projections are made on the basis of need for the manufacturing facility itself — and the growth of the auxiliary facilities gets lost in generalities. Yet is in the related facility areas that the whole expansion program bogs down.

6. "To do this degree of planning we would have to bring into our most confidential planning too many people from within our organization and we don't want to risk leaks of our plans to competitors, the town fathers and the property owners whose land we may want to buy." This objection, until recently, was perhaps the most valid of all that have been listed. The crescendo of interest in community planning in every section of the country means now, however, that it is no longer possible for any company to plan its own destiny apart from that of the community in which it is resident. Both the company and the community will benefit when each is aware of the other's basic planning — even though there may well be some short-range heat generated by apparently conflicting aims.

These capsule illustrations — taken from our case history files — point up in varying degree the six points listed above:

1. A warehouse, well designed and equipped with modern material-handling equipment, was about to be built. Construction was held up, pending a long-range facilities plan development. Facts gathered proved the location to be unsound as this warehouse would cause 28,000 truck trips per year at current volumes to have to pass through an already congested main intersection in the town and that projected volumes indicated a four-fold increase in truck traffic at this warehouse. Review of public road plans revealed that a new limited access road soon to be built would have an interchange which would further increase traffic at this intersection. Work with the county officials caused this interchange to be relocated slightly and to meet with a road to be constructed partly on a right-of-way this client had obtained years ago for a possible railroad spur. With the warehouse reoriented so as to have its truck traffic use this road, both the manufacturer and the town received benefits through reduction of traffic congestion and delays both currently and in the future.

2. A substantial addition to a factory was planned to occupy land already owned and adjacent to current factory buildings. Although this addition would provide needed additional production capacity, this new total capacity would be fully taxed by the volume of sales realistic projections revealed as being quite likely within 4-6 years. Surrounding on three sides of the land on which this addition was to be built were residential buildings. Thus, any further expansion in this direction would mean acquisition of residential property. Zoning activities of the town had not yet classified these residential plots for residential use only and it was reasonable to believe that even were it to happen, these plots could be re-zoned if the company were to acquire them for further plant expansion. Appraisal of these properties indicated that such acquisition would result in a cost of about $100,000 per acre, but equally important, tax counsel advised that though the buildings were razed, the full acquisition cost of the properties would be considered, for income tax purposes, as the cost of the land only and thus would result in a capital asset not subject to depreciation. These facts caused a reappraisal of the means to obtain currently needed extra production capacity and, at the same time, provide for more economic future expansion.

3. A company management refused to entertain an offer to acquire vacant land adjacent to its then current mill site because the price seemed high. Its mill site was bounded by a river bank on one side, a major railroad line on another, and on the third by a major thoroughfare. Thus, the vacant land offered was in the only possible direction of expansion. The refusal to buy was because management decided that if more capacity was needed, an additional mill would be built elsewhere. Subsequently, this vacant land was sold, for the asked price, to another company and im-

R. L. Forster, Manager of Facilities, Community & Industrial Planning for the Management Consulting Division of Ebasco Services Incorporated, is one of the early pioneers in the field of facilities planning. Prior to joining Ebasco in 1947, Mr. Forster was responsible for facilities planning for the Atlantic Division of Pan American World Airways. He has written and lectured extensively on the subject, and for seven years taught on a part time basis at the School of Commerce, Accounts and Finance at New York University. Mr. Forster received his education at the University of Wichita, Kansas.

proved with substantial additional investment. At the time the mill management refused to buy the vacant land, a growing competitive situation for the bulk products this mill produced had caused other mills to add contiguous converting facilities and to market the converted bulk material. Finally, to stay in business, this mill management had to do likewise. To obtain the earlier available and now needed adjacent land, the price that had to be paid not only included the land price which was thought too high at the time, but also the cost of improvements made since. Had the mill management, before refusing to buy the vacant land, reviewed realistically the future of the industry, it could have anticipated this condition and saved several hundreds of thousands of dollars.

4. In reviewing space needs for engineering functions, a breakdown of the kinds of engineering activity revealed that although certain kinds of engineering would increase somewhat due to increased new product development budgets, the increased volume projected years ahead would allow engineering to work on many types of cost reduction projects not economic at current volumes and thus require substantial increases in engineering, laboratory and model shop space and facilities. As an offset, certain quality control functions carried out by engineering due to expensive equipment requirements could, with higher volume be carried out by manufacturing through economic duplication of equipment. These findings had substantial impact on long-range plans for both engineering and quality control facilities.

5. Appraisal of past history of improvements in productivity per employee and projection of such improvement made substantial reductions in future space plans for cafeterias, parking and employee service and recreation areas.

6. Study of the shift between basic materials and processes used in producing a company's products indicated that one currently substantial process would most likely phase out in a number of years and that the unique character of buildings required for this process should not be

*(Continued on page 122)*

INDUSTRIAL DEVELOPMENT MANUFACTURERS RECORD

# RECENT RELEASES

By Suzanne Johnson

## GENERAL REPORTS

**Marketing in Latin America** by Frank Montgomery Dunbaugh. This book gives an airplane view of the whole panorama of Latin American marketing. The material was gathered to help top management make decisions on both over-all and specific Latin American marketing problems. Case examples are included of how individual U.S. corporations are meeting particular problems in Latin American Marketing. It is designed for businessmen and business students. Printers Ink Books, 100 Garfield Avenue, New London, Connecticut. 1960, 298 pages, $7.50.

**Industrial Estates — Tool for Industrialization** by William Bredo. This study is designed especially for those planners and administrators in the newly industrializing countries who have responsibility for the development of small and medium-scale industrial enterprises. It brings together the experience of a number of countries in the use of industrial estates, in the belief that a comparative study may suggest ideas that might be adapted with benefit elsewhere. The Free Press, 119 West Lake Street, Chicago, Illinois. 1960, 240 pages, $6.

**Proceedings of the 35th Annual Conference of the American Industrial Development Council.** H. Huber Denn, Secretary, AIDC, Red Mill Road, Route 2, Newark, New Jersey. 1960, 317 pages, $5.00.

**Shopping Center Zoning:** Part II. This report consists of a critical review of shopping center zoning provisions. It also outlines a recommended procedure and furnishes specific examples of provisions designed to take care of some of the points raised in the previous report — Shopping Center Zoning: Part I. American Society of Planning Officials, 1313 East 60th Street, Chicago, Illinois. 1960, 48 pages.

## AREA REPORTS

**South Australia.** A well-done summary of South Australia's achievements and resources and its hopes for the future. It contains many color plates and covers all major factors of interest to the site-seeker. The Australian Government Trade Commissioner, 630 Fifth Avenue, New York, New York. 1959, 32 pages.

**Columbia, South Carolina — Mid-Point of the Metro South.** An informational brochure of the city. Columbia Chamber of Commerce, P.O. Box 1405, Columbia, South Carolina. 34 pages.

**Survey of Ground Water Resources of North Mississippi.** North Mississippi Industrial Development Association, Henry Clay Hotel, West Point, Mississippi. 18 pages.

**Atlas of Illinois Resources, Sections I, II, and III.** These three sections cover Water Resources and Climate, Mineral Resources, and Forest, Wildlife, and Recreational Resources. These are each very comprehensive, well-done reports complete with maps, charts and graphs for the area covered. Division of Industrial Planning and Development, State Capitol, Springfield, Illinois. Approx. 55 pages each.

**Directory of Louisville Area Manufacturers.** This directory includes information for firms engaged in manufacturing in the Louisville Standard Metropolitan Area. The area includes Jefferson County, Kentucky and Clark and Floyd Counties in Indiana. Louisville Chamber of Commerce, 300 West Liberty Street, Louisville, Kentucky. 1960, 35 pages.

**Answers on Aiken.** An information booklet which brings together basic information on registration and voting, taxes, property, automobile regulations, schools, operations of city and county governments and other pertinent facts. State Bank & Trust Company of Aiken, Aiken, South Carolina. 20 pages.

# CLASSIFIED ADVERTISING

## Industrial Districts

**The following planned industrial districts have sites available for immediate construction. Advantages offered by such districts are described in detail in the November-December 1954 issue, pages 6, 7, and 8.**

**Services offered are indicated by the following code: (A) Architect & Engineer; (C) Construction; (E) Electric Power; (G) Natural Gas; (F) Financing; (P) Paved Streets; (R) Rail Siding; (S) Sewers; (T) Telephone; (W) Water.**

**Georgia**

**METROPOLITAN ATLANTA** — Nine Industrial Districts offering planned sites of varying location, size, price. Services available: (a) optional, (c) (e) (g) (f) optional, (p) (r) (s) (t) (w). For data on these and other sites at Atlanta contact F. Wm. Broome (member, AIDC) Manager, Committee of 100 DeKalb County, 121 E. Ponce de Leon Ave., Decatur, Ga. Atlanta Phone, DRake 8-3691.

**Iowa**

**IOWA "MANUFACTURING MEADOWS"**— Clinton, Iowa (population 35,000). 138 miles west of Chicago on Mississippi River and Lincoln Highway (U. S. 30). 190 acres within city. Master plan by Skidmore, Owings & Merrill. Served by Chicago and North Western Railroad. Developed by Clinton Development Company, a civic-non-profit corporation. CHapel 2-4536. R. J. Stapleton, Managing Director. Services available: (a) (optional), (c), (e), (g), (f) (optional). (p), (r), (t), (w), restrictions.

**Kansas**

Armourdale Industrial Park, Kansas City, Kansas; 40 acres of centrally located restricted industrial sites cleared by Urban Renewal Agency. Rail service, streets, sewers, and all utilities available; 619 Ann Avenue.

**Florida**

Perini Industrial Park, located at West Palm Beach on the main line of Seaboard Railroad. Available services (a), (c), (e), (g), (f), (p), (r), (s), (t), (w) — Write — Paul F. Hrabko, P. O. Box 1071, W.P.B. Phone TE 3-4533.

## Available Sites

**Near the Crowd—But Not in It**

**Middlesex County, N. J. 20 Miles from New York—50 Miles from Philadelphia. On U. S. No. 1, N. J. Turnpike and mainline P.R.R. Write for Booklet.**

**Middlesex County Industrial Department**
**County Record Bldg., New Brunswick, N. J.**

Gateway Urban Renewal Area, Kansas City, Kansas. 17 acres of restricted industrial sites adjacent to business district. Rail service available. Urban Renewal Agency, 619 Ann Avenue.

## Help Wanted

REPRESENTATIVE WANTED in your territory. From your desk you can earn a substantial addition to your income. Only written contacts with your clients! Write for particulars and further details to VKK-Office, P. O. Box 128, Vienna 66, Austria.

## For Sale or Lease

Modern fireproof building in downtown Clearwater, Florida — one of the fastest growing cities in the Nation, 6,300 square feet on one floor. Zoned Commercial or Light Manufacturing. Attractive terms. BRUCE TAYLOR, P. O. Drawer 119, Clearwater, Florida.


PACIFIC NORTHWEST...PUGET SOUND REGION

Economic data on request

Plant location services

Area Development Department

PUGET SOUND POWER & LIGHT COMPANY

1400 Washington Building • Seattle 1, Washington

Stewart G. Neel, *Manager*, AIDC, EEI, PNWIDC




*(Continued from page 121)*

included in long-range facilities plans.

7. Intensive process by process study of a client's operations emphasized the fact that truly economic lot sizes would be a more important factor in the coming years and, by inclusion of such techniques in plans for the future, the proportion of space used currently for in-process and "production float" storage to total current space would be reduced sharply and thus facility expansion plans for the future included these expected reductions in space needs.

8. Client had a waste disposal facility made up of several large open settling ponds. These would become inadequate and no longer appropriate to volume requirements as projected.

Process study indicated point where chemical treatment would become economic. After this point and coincident with a new office building, these ponds would be incorporated into the generally improved landscaping through their use as a cooling medium for the air conditioning system planned for the new office building.

9. A large service company served a community located in one end of a valley and community growth was reaching farther down the valley. Original thoughts were that a new garage and equipment service center should be located in the direction of this growth. Study of probable conditions over the next 20 years proved that it would be more economic to build the needed new facility in the heart of the older section of the community even thought land costs were quite high.

The point of all that has been said thus far is simply that physical facilities are a component of a company's existence — present and future. What kind of a component, whether it is fully or only partially useful is dependent in large part to the degree to which it has been planned to be useful. The wonder is not that some companies have turned to long-range facilities planning as a major corporate activity — rather it is that any company would believe it possible to survive in these highly competitive times without it.

## Professional Services


*Plant Location Assistance—Florida & Southern Georgia*
**HAROLD MARTIN**
*Vice President*
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INDEX TO PROFESSIONAL AFFILIATIONS

| | |
|---|---|
| AIDC | American Industrial Devel. Council |
| AIP | American Institute of Planners |
| AMA | American Management Association |
| ARDA | American Railway Devel. Assn. |
| ASPDA | Assn. of St. Plan & Devel. Officials |
| ASPO | Amer. Society of Planning Officials |
| EEI | Edison Elec. Inst. (Area Dev. Comm.) |
| GLSIDC | Gt. Lakes Sts. Ind. Devel. Council |
| NIDA | Northeastern Ind. Devel. Assn. |
| NIZC | Natl. Industrial Zoning Committee |
| PNWIDC | Pacific N.W. Ind. Devel. Council |
| SIDC | Southern Industrial Devel. Council |
| SIR | Society of Industrial Realtors |
| ULI | Urban Land Institute |

## INDUSTRIAL DEVELOPMENT BRIEFS MANUFACTURERS RECORD

Robert E. Johnson, economist and actuary of Western Electric Company, Inc., has been appointed a member of the Editorial Advisory Board of INDUSTRIAL DEVELOPMENT. Mr. Johnson, who holds degrees from Clark and New York Universities, joined Western Electric in 1950, and prior to that time had held positions with the New York Telephone Company, American Telephone and Telegraph Company and New Jersey Bell Telephone. During World War II he served with several war agencies in a civilian capacity, and also during the Korean conflict. Mr. Johnson is a member of and active in a number of business, fraternal and civic organizations and is co-author of a book entitled "Guide to Elementary Statistical Formulas."

* * *

The State of New York recently turned its former state hospital farm over to the Bridge and Port Authority, and this land is now available for an industrial park. It is located on the Seaway, the entrance to the new international bridge which will be opened in September, on the Rutland Railroad and on Route 37.

* * *

George K. Heebner, Inc., of Philadelphia, industrial engineers, developers and builders, has announced plans to develop an industrial park on a 59-acre tract in Upper Moreland Township, Pennsylvania. The industrial park will occupy 49 acres of the tract. The other 10 acres have been donated by the Heebner firm to the Township for use as a public park and recreation area. When fully developed, the park is expected to have a valuation in excess of $5 million. A "package" service for firms moving into the park will include financing and plant engineering design and construction.


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**Atlantic Coast Line Railroad,** R. P. Jobb, Assistant Vice President, Jacksonville, Florida. (Ad page 62)

**Greater Burlington Industrial Corporation,** Charles D. Townsend, Executive Director, 191 College Street, Burlington, Vermont. (Ad page 123)

**Carolina Power and Light Company,** D. E. Stewart, Manager-Area Development Department, Insurance Building, Raleigh, North Carolina. (Ad 4th cover)

**Chesapeake and Ohio Railway,** Wayne C. Fletcher, Director-Industrial Development, 1103 C & O Building, Huntington, West Virginia. (Insert between pages 48 & 49)

**Chicago, Milwaukee, St. Paul & Pacific Railroad.** E. J. Stoll, Assistant Director, Industrial and Real Estate Division, 286 Union Station, Chicago, Illinois. (Ad page 71)

**Chicago and North Western Railway,** Gene F. Cermak, Director-Industrial Development, 400 West Madison Street, Chicago 6, Illinois. (Ad page 61)

**Chicago, Rock Island and Pacific Railroad,** P. J. Schmidt, Manager-Industrial Development, LaSalle Street Station, Chicago, Illinois. (Ad page 53)

**Georgia Power Company,** Gene A. Yates, Jr., Vice President, P. O. Box 1719, Atlanta, Georgia. (Ad page 115)

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**Louisville and Nashville Railroad,** R. E. Bisha, General Industrial Agent, 908 West Broadway, Louisville, Kentucky. (Ad page 59)

**Michigan Consolidated Gas Company,** R. L. Gage, Manager-Industrial Development Division, 415 Clifford Street, Detroit, Michigan. (Ad page 93)

**Missouri Pacific Railroad Company,** E. Smith Reed, Director-Industrial Development, Missouri-Pacific Building, St. Louis, Missouri. (Ad page 65)

**New York State Electric and Gas Corporation,** E. W. Bartley, manager-Industrial Development, 62 Henry Street, Binghamton, New York, (Ad page 117)

**Nickel Plate Road,** C. B. Bennett, Terminal Tower, Cleveland 13, Ohio. (Ad page 69)

**Province of Ontario,** Development of Travel and Publicity, Guy E. Moore, Deputy Minister, 67 Colleg Street, Toronto, Ontario, Canada. (Ad page 113)

**Prince Georges County Industrial Development Commission,** S. Walter Bogley, Jr., Executive Director, Chamber of Commerce Building, Hyattsville, Maryland. (Ad 2nd cover)

**Puget Sound Power and Light Company,** Stewart G. Neel, Manager-Area Development, 1400 Washington Building, Seattle 1, Washington. (Ad page 122)

**Reading Company,** R. H. Elder, Advertising Agent, Room 456 — Reading Terminal, Philadelphia 1, Pennsylvania. (Ad page 68)

**St. Petersburg Chamber of Commerce,** Jack Bryan, Director-Industrial Development, 4th Street and 3rd Avenue, St. Petersburg, Florida. (Ad 3rd cover)

**Seaboard Air Line Railroad Company,** Warren T. White, Assistant Vice President, 3600 West Broad Street, Richmond, Virginia. (Ad page 70)

**Southern Railway System,** B. E. Young, Assistant to President, 15 and K Streets, N. W., Washington 13, D. C. (Ad page 56 & 57)

**Texas and Pacific Railway Company,** Harry W. Clark, Director-Industrial Development, Texas and Pacific Building, Dallas, Texas. (Ad page 54)

**Texas Power and Light Company,** J. D. Eppright, Director-Industrial Development, P. O. Box 6331, Dallas 22, Texas. (Ad page 3)

**Toledo Edison Company,** Robert E. Johnson, Manager-Industrial Development Department, 420 Madison Avenue, Toledo, Ohio. (Ad page 91)

**Union Electric Company,** M. E. Skinner, Vice President and Director of Sales, 315 North Twelfth Boulevard, St. Louis, Missouri. (Ad pages 8 & 9)

**Union Pacific Railroad,** A. C. Ritter, General Manager of Properties, 1416 Dodge Street, Omaha, Nebraska. (Ad page 66)

**Valdosta-Lowndes County Chamber of Commerce,** H. T. Amon, Executive Director, Valdosta, Georgia. (Ad page 4)

**Walla Walla Port District,** Mrs. Elva Bair, Office Manager, Post Office Box 124, Walla Walla, Washington. (Ad page 12)

**State of Washington,** Department of Commerce and Industrial Development, Sam Boddy, Director, General Administration Building, Olympia, Washington. (Ad page 11)

**West Palm Beach Chamber of Commerce,** Greg Marquez, 600 North Flagler Drive, West Palm Beach, Florida. (Ad page 5)

**Western Pacific Railroad,** F. B. Stratton, Director-Industrial Development, 526 Mission Street, San Francisco, California. (Ad page 55)

**PLANT CONSTRUCTION AND INDUSTRIAL SERVICES:**

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**OTHER:**

**American Creosote Works, Inc.,** for Waguespack, Pratt, Inc., S. B. Braselman, Jr., Vice President, 1305 Dublin Street, New Orleans, Louisiana. (Ad page 96)

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## BRIEFS

George Wendle, of Short Hills, New Jersey, has joined the Industrial Department of Hanson & Hanson, Inc., Industrial Realtors of Newark and Hackensack. Mr. Wendle previously had been general manager of United Advertising Corporation, Newark, and just prior to his new appointment was manager of O'Mealia Outdoor Advertising, Jersey City.

* * *

What is described as the most extensive conference ever arranged on construction of new industrial buildings and modernization of old ones will take place in New York December 12 through 15. The conference will be a feature of the first Industrial Building Exposition & Congress at the New York Coliseum. Both events are being produced by Clapp & Poliak, Inc., New York exposition management firm and are under the sponsorship of a board composed of 28 of the nation's foremost architect's, builders, engineers and industrial executives.

* * *

Carl Lloyd, formerly executive vice president of the Society of Industrial Realtors, Washington, D.C., has entered the private investment business and will operate in both Europe and the United States. Mr. Lloyd left his S.I.C. position on July 21, and he and his family sailed for Europe on August 12. They plan to live in Paris and Zurich for the next three years. Mr. Lloyd had been with S.I.C. since 1949.

* * *

The Southern New Jersey Development Council, Atlantic City, has initiated a long-range program of regional planning. The project includes the making of depth analyses of various communities in the region which, when completed, will include not only factual information on community facilities but also general qualitative evaluations of the communities' growth potential and growth characteristics. Officials said accurate and up-to-date information of this kind will further provide the council with immediate and intelligent solutions to the needs of industrial prospects investigating the area.

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